



Emergency Powers

The Susquehanna River Basin Compact (Section 11(4)--P.L. 91-575; 84 Stat. 1509 et. seq.) authorizes the Susquehanna River Basin Commission (SRBC) to declare drought emergencies so that appropriate response actions can be taken to mitigate the impacts. SRBC's emergency declarations are issued by a unanimous vote of the commissioners after a duly-noticed public hearing.

During a drought emergency, SRBC can:

- reduce diversions and water allocations to resolve conflicts among competing users of the basin waters;
- coordinate reservoir operations, as needed, to protect public health, safety, welfare and the environment;
- request its member states to institute mandatory restrictions on nonessential water uses; and
- take other actions as deemed appropriate.

The goal of water conservation measures during a drought emergency is to achieve a 15 to 25 percent reduction in overall water demand.

3/2001

INFORMATION SHEET

1999 Drought Emergency

Significant shortfalls in snow and rain during 1998 and 1999 led to the basin's worst drought in more than 30 years. For only the second time in 28 years, SRBC declared a drought emergency in July 1999 that covered virtually the entire Susquehanna basin and went into effect in conjunction with each state's emergency declaration. Pennsylvania and Maryland also declared drought emergencies that month, followed by New York in August. The Maryland declaration represented the state's first-ever emergency declaration, and it was for the entire state. (See the chronology on page 3.)

This drought proved to be record-setting in many ways. Over the duration of the drought:

- ground-water monitoring wells in 11 counties recorded all-time lows;
- surface flows dropped to record lows at 37 stream gages throughout the basin;
- surface flows dropped below SRBC's critical low flow levels at about 18 stream gages on August 13; and
- July 1999 was the hottest July recorded in the City of Harrisburg, Pennsylvania. The stream gage at Harrisburg also recorded the lowest flow ever for a 4-month period from June to September.

SRBC's drought emergency declaration called on the states to place restrictions on the use of water for nonessential uses and for SRBC to limit other uses as allowed by its compact (see article at the left). The ban on nonessential water uses included: (1) not washing or cleaning noncommercial or nonemergency vehicles, except when the water is applied



Dry streambeds, such as this tributary in New York, were common throughout the basin.

using a bucket; (2) not serving water in restaurants, clubs or other eating establishments, unless specifically requested by the patron; (3) reducing the amount of water for golf course irrigation; and (4) not watering established lawns, unless newly seeded or sodded.

Drought Coordination Plan

During droughts in the Susquehanna basin, SRBC is responsible for coordinating the monitoring and response activities of its member states and the federal government to ensure effective responses. In 2000, SRBC adopted the *Susquehanna River Basin Drought Coordination Plan* (publication #212) to guide the Commission and its members in managing water supply droughts.

The coordination plan, which was developed by SRBC and its Drought Coordinating Committee, details: (1) the three drought stages and their purposes—watch, warning and emergency; and (2) the proper procedures for:

- monitoring droughts;
- issuing drought declarations during all three stages; and
- responding to drought conditions.

The plan also provides information on the drought management activities of each member state and the U.S. Army Corps of Engineers, including their respective regulatory authorities and responsibilities during droughts. A list of the nonessential water uses during drought emergencies is included in the appendix of the plan.

The plan is available on SRBC's website at www.srbcc.net or by contacting SRBC.

Drought Impacts

Virtually the entire Susquehanna basin experienced moderate to severe impacts during the drought emergency, including impacts to public water supplies, agriculture, industrial and commercial operations, aquatic habitat and recreation. Following are brief highlights of the drought impacts in the three basin states.

During field observations, SRBC documented a number of dry streams and other streams with extremely low water levels, where fish were trapped in pools, physically stressed and subject to predation. Direct water-related recreational activities such as boating and fishing were limited in areas, and other related recreational activities such as golfing also were impacted.

Numerous drought-related homeowner well failures were reported throughout the basin, particularly in Maryland's Harford and Cecil Counties and Chemung County, New York. Communities and individual homeowners were impacted by the cost of drilling new wells. Also, many municipal water purveyors imposed their own restrictions on nonessential water uses throughout their service areas. Some large public water supply reservoirs dropped to all-time record low levels. The York Water Company in York, Pennsylvania, had to rely on a backup reservoir for the first time in the company's long history.

The U.S. Department of Agriculture (USDA) declared an agricultural disaster in 34 counties in New York, including those in the Susquehanna basin. The New York State Department of

Agriculture and Markets estimated, for the 34 counties, the 1999 agricultural losses at \$2.5 billion.

In Pennsylvania, the USDA Farm Service Agency estimated crop losses of \$500 million from the 1999 drought. Pennsylvania farmers in some counties suffered crop losses of 70 to 100 percent. The Susquehanna basin suffered a disproportionate share of the statewide losses, because half of the state is in the basin and much of the state's richest farmlands are in the basin.

Additionally, water-dependent industries such as nurseries suffered losses,

while others had operational concerns due to low flow conditions. For example, a power plant in Montour County,



Drought-stressed corn.

Pennsylvania, had trouble getting sufficient water supplies to meet its operating demands. Extreme low flows in the lower Susquehanna River made it very difficult for the Conowingo Dam in Maryland to meet its obligation to maintain minimum flows to the Chesapeake Bay.



Loyalsock Creek at Montoursville, Pennsylvania.

Lessons Learned

Shortly after the end of the 1999 drought emergency, SRBC convened a meeting of water management directors from its member states to discuss drought coordination and management issues. Representatives from several agencies were on hand, including the Pennsylvania Department of Environmental Protection, the Maryland Department of the Environment, the New York State Department of Environmental Conservation and the U.S. Army Corps of Engineers.

The main purposes for the meeting were to: (1) share lessons learned from the 1999 drought emergency; and (2) identify options and make recommendations for improving the basin's drought management capability. The meeting participants shared their observations and made many recommendations, including:

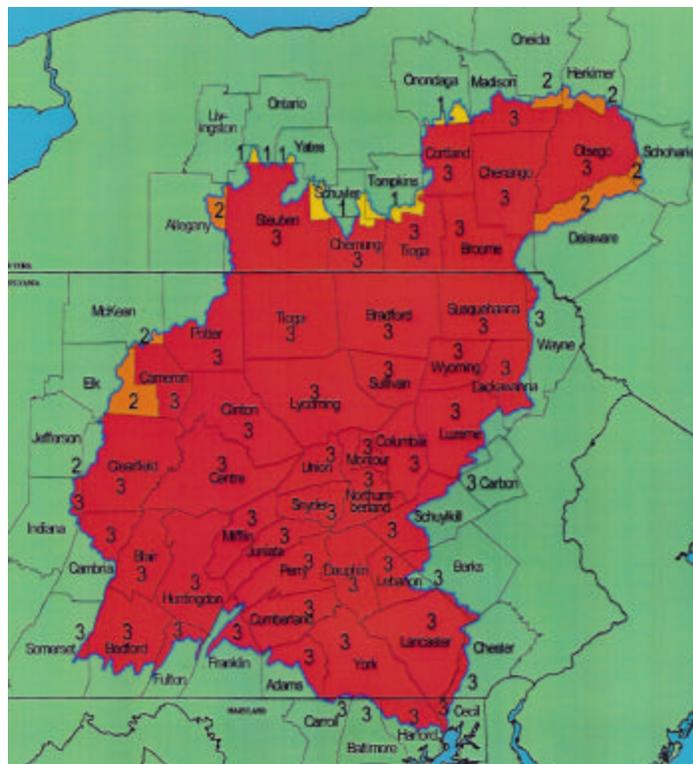
Lessons Learned:

- It is difficult for SRBC to implement drought response measures that a state is unwilling to do on its own.
- An important role for SRBC is to strive to develop uniform drought management techniques among the member states.
- SRBC's drought resolutions should, in general, "support" the drought actions taken by the member states; however, SRBC will retain the prerogative to make an emergency declaration.
- Public information is an important drought response function. Better communications are needed before holding public hearings on droughts.

Recommendations:

- Proposed changes to Pennsylvania's drought regulations should be coordinated with the surrounding states, and possibly through the drought coordinating committees of SRBC and the Delaware River Basin Commission.
- Maryland, which declared its first-ever drought emergency, will focus its future drought management program on improving public education and drought monitoring capability.
- SRBC should meet with the seven principal counties in the New York portion of the basin to help them develop their drought management programs.
- SRBC should provide basinwide drought information to both technical and policy-level staff. Press office personnel from SRBC and member states should meet to develop a process for coordinating future drought management activities.

August 1999



1-Watch 2-Warning 3-Emergency

Susquehanna Basin Counties Under Drought Emergency

During the 1990s, the Susquehanna basin experienced droughts in 1991, 1995, 1997, 1998 and 1999. The 1999 drought emergency was the culmination of a continuous, multiple-year drought. In fact, many parts of the basin were under a continuous drought declaration from December 1998 to January 2000.

The following is a summary of the drought declarations leading up to August 1999, when virtually the entire basin was under a drought emergency.

December 1998. Pennsylvania declares drought watches and warnings statewide. Maryland declares a statewide drought warning. SRBC endorses the Pennsylvania and Maryland actions and also declares drought watches in seven counties and a warning in one county in the New York portion of the basin.

March 1999. Pennsylvania downgrades all counties to drought watch. Maryland maintains its statewide drought warning. SRBC lifts drought declarations in New York.

June 1999. SRBC declares a drought warning for the entire Susquehanna basin.

July 1999. Pennsylvania, Maryland and SRBC declare drought emergencies. The Maryland declaration also called on the City of Baltimore to withdraw water from the Susquehanna River to reduce the burden on the city's reservoirs.

August 1999. New York declares a drought emergency.

Water Conservation Tips

Indoor

- ◆ Take short showers instead of baths.
- ◆ Don't let the water run continuously while shaving, brushing teeth, or washing dishes by hand.
- ◆ Run dishwasher and washing machine only when filled to capacity.
- ◆ Repair all leaking faucets, pipes, hoses, and toilets.
- ◆ Install new shower heads and sink faucets equipped with water-saving devices, such as aerators or spray taps, or retrofit existing showers and faucets with these devices.
- ◆ Replace older toilets that use more water with newer, low consumption toilets.
- ◆ Refrigerate tap water to avoid running the faucet for a long time to get cold water.
- ◆ Use the water collected by dehumidifiers to water indoor and outdoor plants.

Outdoor

- ◆ Do not water lawns; only water recently seeded or planted landscapes.
- ◆ Limit washing noncommercial vehicles, and use car-wash facilities that recycle the water.
- ◆ Sweep sidewalks and driveways-don't hose them down.
- ◆ Cover pools and spas when they are not in use to reduce evaporation.
- ◆ Select more drought-tolerant vegetation and plant species for landscaping (see below).
- ◆ Direct downspouts or gutters toward shrubbery or trees, and/or collect the water in a large bucket for use elsewhere.
- ◆ Homeowners and businesses using irrigation systems:
Reduce the level of irrigation and/or restrict watering times to the coolest times of the day and when it is not windy.

Susquehanna River Basin Commission

SRBC is a federal-interstate watershed agency with a mission to enhance public welfare through comprehensive planning, water supply allocation and management of the water resources of the Susquehanna River Basin.

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Conserve water by planting drought-tolerant perennials and annuals.
Mulching your plants also helps retain soil moisture.



Flowers shown flourishing during the 1999 drought emergency.

1. Cosmo
2. Black-Eyed Susan
3. Hardy Phlox
4. Monarda (Bee-Balm)