

## THE DRINKING WATER CONNECTION

The tap water we all take for granted did not necessarily start out so clean. It may have passed through farm fields and construction sites, over ice-covered roads laden with salt, through over-fertilized lawns and broken septic fields, or past a leaking underground storage tank before it was pumped into the local water treatment plant.

These and other man-made influences increase the cost for public water suppliers to monitor and treat raw water for human consumption. If point- and non-point source dischargers, public water suppliers, water resource agencies, landowners and others can help keep the influences in check, those costs can be significantly reduced.

How can we help keep water cleaner before it reaches the treatment plant? Some of the answers lie in Source Water Protection (SWP) Plans.

Source Water Protection plans accomplish three key objectives:

- ♦ they delineate recharge areas of wells (for supplies relying on groundwater sources) or the watershed (for supplies that use surface water sources);
- ♦ they provide detailed inventories of potential sources of contamination; and
- ♦ they involve community stakeholders in developing strategies for reducing the likelihood of water contamination.

Although source water assessments were mandated by the federal Safe Drinking Water Act, the voluntary development of Source Water Protection plans lags seriously behind. About 16 percent of the public water systems in the basin have Source Water Protection plans in place. Since 2003, SRBC has been helping 23 community water systems develop SWP plans that are tailored to the watershed areas contributing water to their public drinking systems.

### WATER SUPPLY & DEVELOPMENT



The Susquehanna River Basin provides drinking water for about 4.1 million basin residents in New York, Pennsylvania and Maryland. In addition, more than 15 million gallons per day are diverted out of the basin to supply public drinking water to another 2 million people outside of the basin, including substantial diversions to support the City of Baltimore, Md., and Chester County, Pa.

### FLOODS & DROUGHTS



Floods and droughts both have impacts on the basin's drinking water supply. Droughts can lead to voluntary and mandatory water use restrictions and, depending on severity, reliance on contingency sources. Floods not only affect transportation and building infrastructure, they can also impact drinking water quality and sewer conveyance, particularly in areas with combined sewer overflow systems. Floods can necessitate boil-water advisories and water conservation measures.



Since many systems do not own the lands around their water supply wells and intakes, there is strong evidence that the plans that produce the most tangible results usually rely heavily on collaboration and public education.

*For more information on SWP plans that reflect strong partnerships and on-the-ground results, see [www.srbc.net/programs/partnership.htm](http://www.srbc.net/programs/partnership.htm).*

### MINE DRAINAGE



Mine drainage pollution affects the availability of clean, affordable drinking water. In addition, new industries and large water users may avoid areas in which clean water supplies are not available.

### STORMWATER



Urban runoff that may contain heavy metals, organic compounds such as pesticides and herbicides, pathogens, and nutrients or sediments, is commonly collected in storm sewers and discharged to waterways untreated. Thus, surface waterbodies that are used for drinking water routinely receive contaminants carried in runoff.

### SEDIMENT & NUTRIENTS



Sediment and nutrient pollution affects the treatment of clean, affordable drinking water. In addition, excessive nutrients can increase the production of harmful disinfection byproducts during the drinking water treatment process.

### HABITAT & AQUATIC RESOURCES



Healthy aquatic communities and habitats indicate the presence of reasonably good water quality, which is integral to sustaining sound ecosystems and numerous human activities, including using water sources as drinking water.

The Susquehanna River Basin provides drinking water to more than 6 million people.

## FOCUS STORY

| Major Public Water Supplies Relying on the Susquehanna River |                   |  |   |
|--|-------------------|--|---|
| Water Supply   | Population Served | Type of Operation  | Source  |
| New York   |                   |  |   |
| Binghamton   | > 40,000          | City   | Susquehanna   |
| Elmira   | > 60,000          | City   | Chemung River in combination with groundwater wells   |
| Pennsylvania   |                   |  |   |
| Danville   | > 15,000          | Municipal  | Susquehanna   |
| Milton/Lewisburg Area  | > 40,000          | PA American Water Co.                                    | West Branch Susquehanna   |
| Shamokin Dam   | > 1,500           | Municipal  | Susquehanna   |
| Sunbury  | >10,000           | Municipal  | Susquehanna serves as a backup source   |
| Harrisburg Area  | > 90,000          | United Water Co.   | Susquehanna in conjunction with Swatara Creek   |
| Harrisburg Area  | > 65,000          | Municipal  | DeHart Reservoir (Susquehanna serves as a backup source)  |
| Steelton   | > 5,000           | Municipal  | Susquehanna   |
| Columbia   | > 25,000          | Columbia Water Co.                                       | Susquehanna   |
| City of Lancaster  | > 100,000         | Municipal  | Susquehanna in conjunction with Conestoga River   |
| Wrightsville   | > 4,000           | Municipal  | Susquehanna   |
| City of York Area  | > 180,000         | York Water Co.   | Susquehanna (blending with reservoir water as a backup)   |
| Red Lion   | > 10,000          | Municipal  | Susquehanna serves as backup source for blending with other primary sources   |
| Southwestern Delaware and Southern Chester counties          | > 200,000         | Chester Water Authority                                  | Susquehanna serves as a source for blending with reservoir water  |
| Maryland   |                   |  |   |
| Baltimore  | > 1,800,000       | City   | Susquehanna serves as a source for blending with reservoir water  |
| Other Maryland Communities                                   | > 100,000         | Harford County, Havre de Grace, Perryville, Port Deposit | Susquehanna serves as primary for Havre de Grace, Port Deposit, and Perryville - Harford County blends with other sources |

*This list does not include small suppliers (those serving only several hundred customers — fewer than six suppliers fit this criteria for the Susquehanna mainstem -- Peach Bottom, etc.)*

Planning alone does nothing to reduce the risk to water supplies; the key is to implement Source Water Protection (SWP) Plan strategies.



That is one reason SRBC convened a workshop in February 2012 to consider a regional approach to facilitating SWP implementation in the lower Susquehanna River basin. Nearly 80 representatives from the region's water authorities, water companies, municipalities, private firms and state water agencies attended the workshop and weighed in on whether to pursue a regional path.

Local SWP partnerships and regional organizations from outside the focus area shared success stories and lessons learned in SWP implementation. Size, structure, degree of collaboration, and shared goals were among the discussion items. Overall, the participants agreed that a regional framework would be valuable. How such an umbrella organization will be structured and operated will be determined through future dialogue.

For more information on SRBC's Source Water Protection efforts, see [www.srbc.net/programs/partnership.htm](http://www.srbc.net/programs/partnership.htm).