

## INDICATOR 6

# HUMAN HEALTH & DRINKING WATER PROTECTION



### OVERVIEW

More than 50 percent of the Susquehanna River Basin population obtains drinking water from watersheds that are susceptible to a wide range of pollutant sources. Typically, those responsible for treating water to public drinking water standards have no control over the land management activities that occur upstream of public drinking water intakes that may affect the quality of the water.

Approximately 17 percent of the Susquehanna River Basin's waters are listed as impaired, and fish consumption advisories are in place throughout the basin. The major sources of pollution to these waterways include agriculture, mine drainage, urban/suburban runoff and atmospheric deposition. In addition, there are emerging concerns about pollutants, such as personal care products, antibiotics, pharmaceuticals, pesticides and hormones, which have mostly been attributed to treated wastewater flows.

### It's a Fact

◆ **Groundwater plays a critical role in supplying drinking water in the Susquehanna River Basin. Total groundwater use in the basin is about 391 million gallons per day (mgd). The largest users are public water suppliers (115 mgd), mining (90 mgd), domestic withdrawals (80 mgd), industrial (48 mgd), agriculture (42 mgd), and commercial (12 mgd). (Source: Groundwater Management Plan for the Susquehanna River Basin, 2005)**

## Overarching Issue

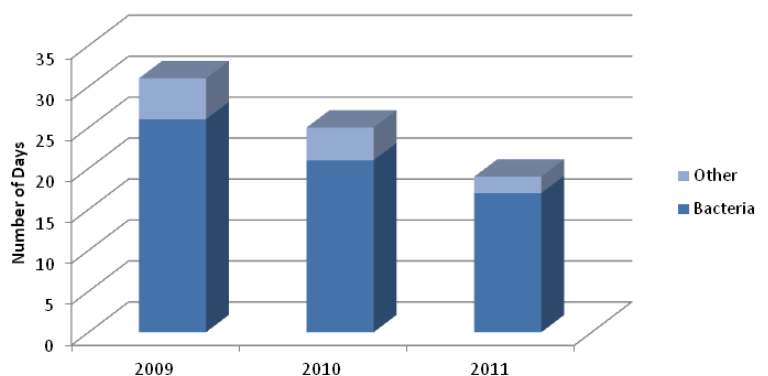
There are thousands of potential contaminants that exist in the environment, and yet only about 90 are regulated through federal or state drinking water standards. With about 4.1 million people in the basin and more than 2 million outside the basin depending on drinking water from the Susquehanna basin, maintaining and protecting clean water to support human health is critically important.

### INDICATOR CRITERIA

Criteria	Assessment Period	
	2010	2012
Percent of assessed stream miles designated as recreational/potable water use that are impaired for microbial pollutants	8%	17%
Percent of assessed stream miles designated as potable water use that are impaired	3.3%	3.0%
Number of days that public beaches/swimming areas were closed	31	19
The basin's overall risk level for potential drinking water contamination in streams		
High	0.5%	0.7%
Moderate to High	5.9%	5.1%
Moderate	11.0%	13.5%
Low to Moderate	40.2%	40.3%
Low	42.4%	40.4%

Data Sources: SRBC SWP data, NY/PA/MD Dept of Health data, NY State Parks and Recreation, NY/PA/MD stream impairment data

### Public Beach Closures



Number of days that public beaches/swimming areas were closed.

**EARLY WARNING SYSTEM:**

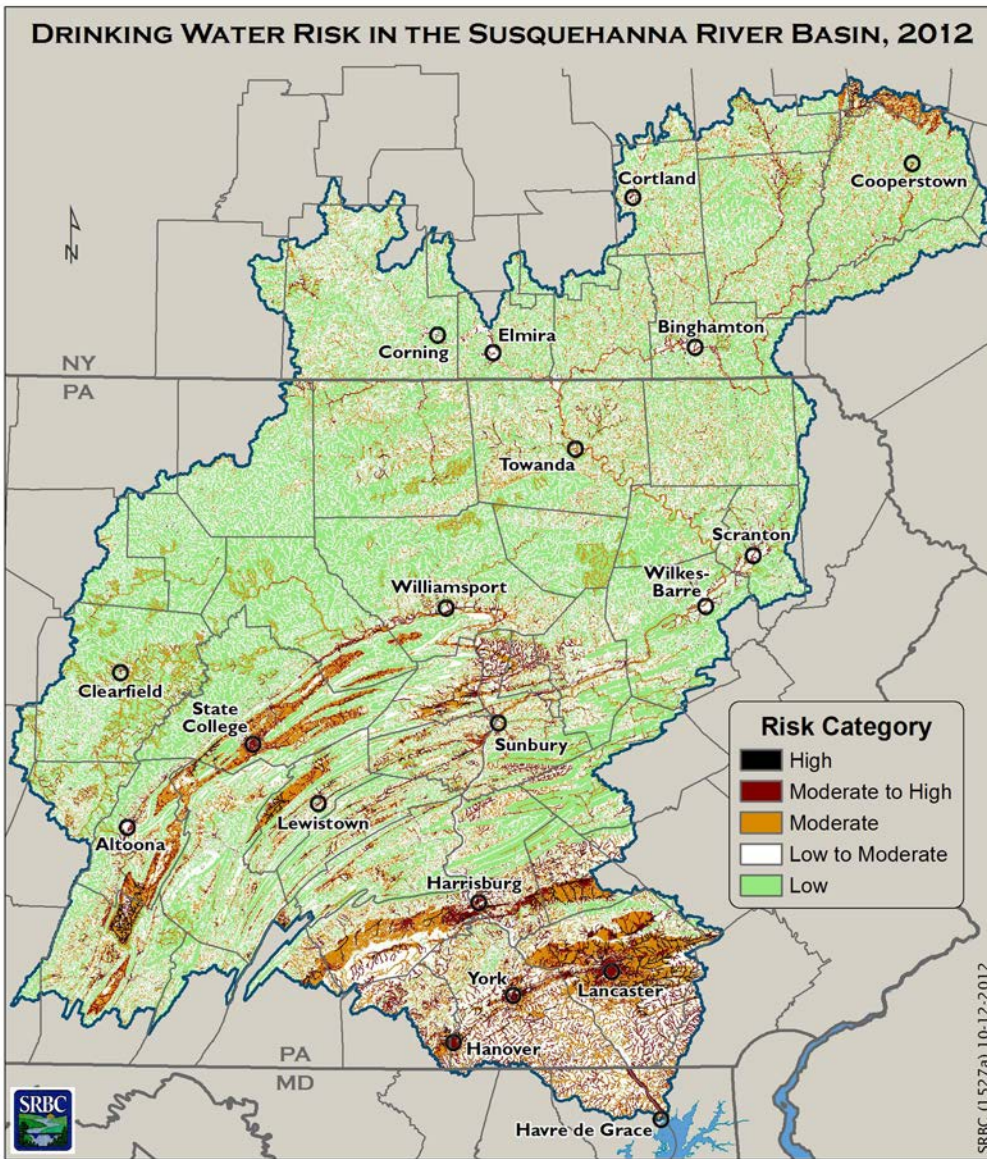
**MORE TIME TO RESPOND TO CONTAMINANT EVENTS**

In 2003, SRBC established the Early Warning System (EWS) for public water suppliers in Pennsylvania with intakes in the Susquehanna River, and expanded the system into the New York portion of the basin in 2006. The EWS provides a communication and data sharing tool among water suppliers, state and local agency personnel and the emergency response community to enhance drinking water protection efforts.

Currently, the EWS increases protection for about 700,000 people, providing a monitoring network to inform treatment plant operators and allow for a continuous, safe drinking water supply.

An updated web site will be released to the water suppliers with new features including new map interfaces, a directory of industrial and municipal dischargers, a directory of emergency response numbers and a time-of-travel tool developed using real-time data to estimate travel times of future spills to water intakes on the mainstem.

*Eleven major water suppliers on the Susquehanna River in Pennsylvania and New York participate in the Early Warning System.*



**Source Water Protection:** GIS data layers for land use, geology, waterways, impaired waterways, National Pollutant Discharge Elimination System (NPDES) permit locations, and Resource Conservation and Recovery Act (RCRA) locations are all incorporated to determine risk areas that are susceptible to pollution events as shown on the above map.

*In the event of a spill or contamination, real-time monitoring devices provide water quality information instantaneously to water suppliers, giving them time to put an emergency response plan into action or implement a change at a water treatment plant.*

