



Susquehanna River Basin Commission

A water management agency serving the Susquehanna River Watershed

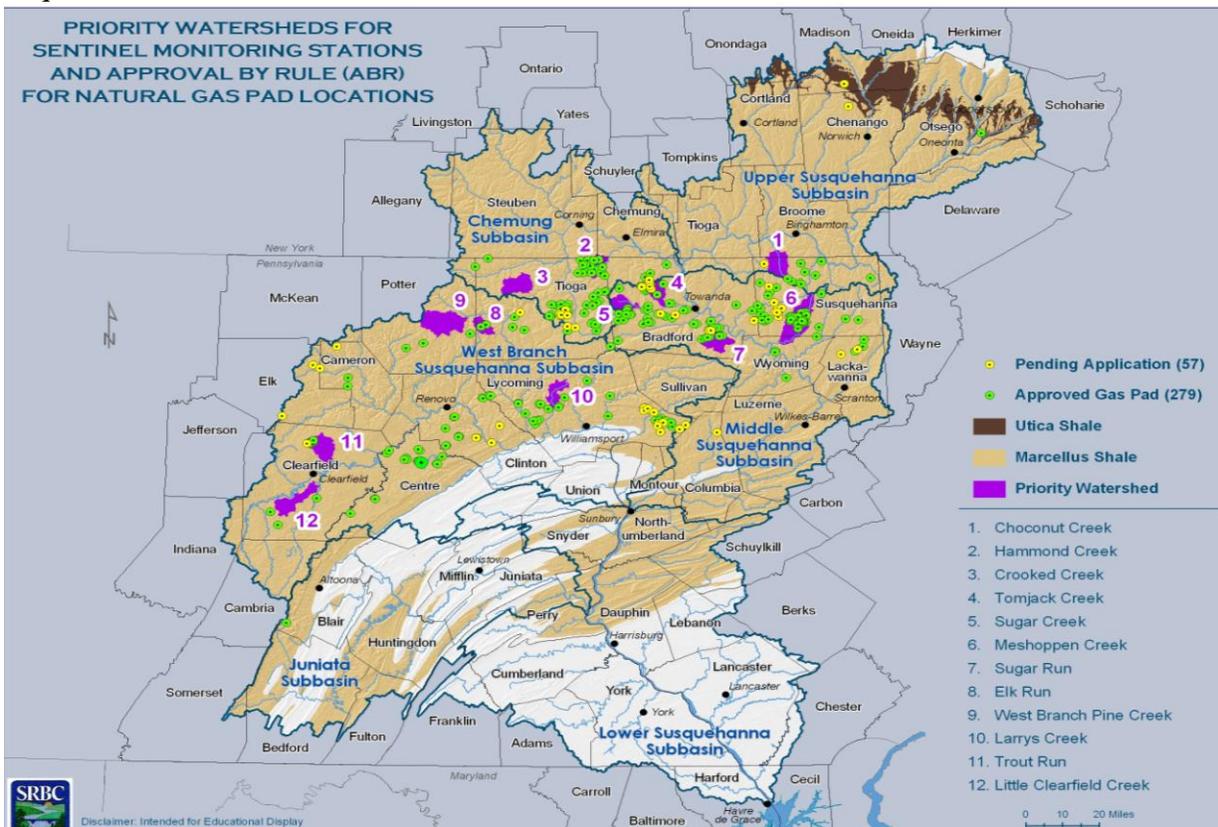
Susquehanna River Basin Commission Water Resource Management Activities related to Marcellus Shale Development (April 29, 2010)

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The Susquehanna River Basin Commission (SRBC) is a federal-interstate agency established under the Susquehanna River Basin Compact. The compact is a federal law that was signed on December 24, 1970 by President Richard Nixon, and went into effect on January 24, 1971.

The compact joined the federal government and the states of New York, Pennsylvania, and Maryland as equal partners for a period of 100 years to manage the Susquehanna basin's water resources through proper planning, development, and regulation. As an interstate agency, SRBC manages the basin's water resources based on watershed rather than political boundaries. This gives SRBC the ability to help resolve interstate water disputes.

Although SRBC regulates withdrawals and consumptive (depletive) uses that permanently take water from the Susquehanna basin, it does not regulate water quality aspects related to shale gas development. Water quality is regulated by both the federal government and SRBC's member states. The map below shows the areas where Marcellus shale is found in the Susquehanna basin.



Through its regulatory program, SRBC considers impacts on other water users and aquatic habitat, and places conditions on withdrawal approvals to protect both other water users and the environment. SRBC also places conditions on its withdrawal approvals to protect against the spread of invasive aquatic species and the uptake of aquatic organisms during withdrawal operations.

Several categories of water quality impacts can potentially occur during (Marcellus) shale gas development. This is an industrial activity involving the transport, use, and disposal of chemicals and other materials that could cause undesirable impacts if accidentally released into the environment. Of the water quality effects observed to date in the Susquehanna basin, accidental discharges occurred more frequently than other documented impacts. A few discharges were highly publicized, although many other, smaller spills occurred with generally less impacts on water quality.

Groundwater impacts can potentially occur due to faulty drilling, construction, operation, or plugging after gas production has ceased. The migration of natural gas into aquifers is probably the most dangerous, since the gas can be withdrawn and transported to man-made structures where it could potentially be ignited and explode. Natural gas has been documented in groundwater supplies in Dimock Township, Susquehanna County, Pennsylvania, where hydraulic fracturing of Marcellus Shale occurred.

Many states, including nearby Ohio, rely on deep well injection of waste water generated from shale gas wells. Pennsylvania has proposed tough new standards for treatment and discharge limits associated with the disposal of waste water because of the high concentrations of total dissolved solids (TDS) and salts it contains.

Although stormwater runoff could potentially serve as a pathway to transport contaminants, SRBC staff is not currently aware of any specific examples of this occurring in the Susquehanna basin.

Of the impacts possible, we believe that priority should be placed on the proper construction, operation, and plugging of wells to prevent the migration of pollutants, especially natural gas. Management of TDS and salt concentrations is critical, and the re-use of waste water and development of appropriate disposal facilities should also be prioritized.

SRBC recently began development of a network designed to remotely monitor water quality conditions to maintain and protect surface waters in select portions of the Susquehanna basin. The monitoring network uses state-of-the-art monitoring and communications technology to collect and transmit real-time water quality data. Some of the priority watersheds for remote water quality monitoring are identified on the map shown above. For more information on SRBC's regulatory program, the remote monitoring network, and other programs, visit SRBC's website at www.srbc.net.