

Workshop on Governance of Risks of Unconventional Shale Gas Development

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Susquehanna River Basin

The Basin:

- 27,510-square-mile watershed
- Comprises 43 percent of the Chesapeake Bay watershed
- 4.2 million population
- 69 percent forested
- 49,000+ miles of waterways



The Susquehanna River:

- 444 miles, largest tributary to the Chesapeake Bay
- On average, river supplies **18 million gpm (26 billion gpd)** to the Bay

Susquehanna River Basin Commission (SRBC)

SRBC is a federal-interstate compact commission established by the federal government and the states of New York, Pennsylvania and Maryland.

SRBC is responsible for managing the basin's water resources.



SRBC was established for a 100-year duration by a compact signed on Dec. 24, 1970 by the federal government and NY, PA and MD to protect and wisely manage the water resources of the Susquehanna River Basin.



SRBC Commissioners

US: Brig. General Kent Savre

NY: James Tierney

PA: Acting Secretary Christopher Abruzzo



What SRBC Regulates

- **Surface Water Withdrawals** ($\geq 100,000$ gpd)
- **Groundwater Withdrawals** ($\geq 100,000$ gpd)
- **Consumptive Use** ($\geq 20,000$ gpd)
- **Diversions** (Out of Basin $\geq 20,000$ gpd; Into Basin at Gallon 1)
- For Natural Gas Industry, Withdrawals or Consumptive Use; (Regulated from Gallon 1)

In 2007, U.S. GAO undertook a study of interstate compact commissions:

- Congress has approved 59 interstate compacts addressing environmental and natural resource management issues (mostly water resources).
- 46 of those provided for creation of standing commissions to administer the compacts.
- 22 of those address water allocations and 21 of those provide federal representation.
- Of those 21, 16 have representatives appointed by the President. The other 5 name an official of a specified federal agency (i.e., Director of USGS).
- Only 4 explicitly give the federal representative power to vote on commission actions.
- Of those 4, only the DRBC and SRBC provide for such voting under a federal-interstate compact structure with interstate water allocation authority.

Federal-Interstate Compact Distinction

Basic tenants and distinguishing characteristics of federal-interstate compacts:

- U.S. participates as signatory member.
- Federal representative has both authority and duty to bind federal agencies, to extent of their discretionary authority and within limitations of any federal reservations to the compact, to decisions and standards of the commission.
- For states, everything applicable to them under traditional interstate compacts also applicable to them under federal-interstate compacts.

Unique Features of DRBC and SRBC

- Delaware River Basin Compact formed in 1961 was the first multi-purpose, federal-interstate compact.
- Susquehanna River Basin Compact formed in 1971 was the second.
- This institutional arrangement conserves scarce resources, avoids duplication of effort, enables complementary programs to be developed, and maximizes efficiencies.

Relevant SRBC Statistics

- Unconventional gas play began in basin mid-2008.
- To date, approx. 3,950 unconventional gas wells have been drilled w/i Susq. River basin.
- Of those, approx. 2,400 wells have been hydraulically fractured.
- Average water used per fracking event; 4.4 million gallons per well. Additional minor amounts used for drilling, dust control, and revegetation.
- Total amount of water consumptively used to date by unconv. gas industry; 11.5 billion gallons.
- Ave daily water withdrawal; 10 million gallons per day.
- Ave daily flow from Susq. River to Chesapeake Bay; 26 billion gallons per day.



Questions?

