

PROTECTING THE CHESAPEAKE BAY

"The comprehensive plan shall take into consideration the effect of the plan or any part thereof upon the receiving waters of Chesapeake Bay."

--Section 14.1 of the Susquehanna River Basin Compact, P.L. 91-575; 84 Stat. 1509 et seq.

How important is the Susquehanna River to the bay?

The Susquehanna River is the single largest source of fresh water to the Chesapeake Bay, supplying half of the bay's fresh water. The average daily flow of the Susquehanna at its mouth is 22 billion gallons. The bay, in fact, is nothing more than the submerged area of what was once the lower Susquehanna River.

The quality and quantity of the waters from the Susquehanna have a direct effect on the health of the bay. The tremendous productivity of the bay is directly linked to the delicate balance between the salt water from the Atlantic Ocean and the fresh water from the bay's many tributaries.

How does SRBC help protect and restore the bay?

The Susquehanna River Basin Commission (SRBC) has substantial involvement in the bay program, conducting programs and activities of great importance to the bay. SRBC has programs in place to regulate and monitor the quantity of the water in the river and to monitor water quality to identify trouble spots and ensure that water quality standards are being met. SRBC also acts as a bridge connecting the bay restoration program to New York, a "non-signatory state" in the bay watershed.

Regulating Water Quantity. SRBC is the only agency that regulates consumptive uses of water in the Susquehanna River Basin. During periods of low stream flow, SRBC requires consumptive water

users to compensate for the amount of water they use. This benefits all downstream users and the bay.

Monitoring Water Quality. SRBC is involved in several water quality monitoring programs. These programs are an important part of the Chesapeake Bay Program. The data and reports produced by SRBC provide state and federal program managers with important information to help them target their efforts and evaluate how their current programs are affecting water quality and living resources. Flow-corrected data collected over the last few years at SRBC's six monitoring stations indicate decreasing trends in nitrogen concentration. Decreasing trends were also noted for phosphorus in the central and southern parts of the basin.

Reducing Nonpoint Source Pollution. SRBC's expertise in the area of nonpoint source nutrient pollution, which is the primary cause of water quality impairment in the bay, is important to its compact members (New York, Pennsylvania, Maryland, and the federal government). SRBC assisted Pennsylvania in developing the state's nutrient reduction strategy--a strategy for reducing the nutrients reaching the bay by 40 percent by the year 2000. In a related task, SRBC also organized a sediment task force to deal with the problem of sediment accumulation in reservoirs in the lower Susquehanna River.

Protecting Stream Corridors. Stream corridor protection techniques such as streambank fencing, riparian forest buffers and riverine wetlands protection provide significant water quality benefits to the bay. SRBC is managing a project to stabilize stream banks and provide fencing along Mt. Rock Spring Creek in Cumberland County, Pa. SRBC also

is participating in Pennsylvania's initiative to establish 600 miles of new riparian forest buffers by the year 2010. This initiative is part of the Chesapeake Bay Executive Council's 1996 directive that set a goal of establishing a total of 2010 new miles of forest buffers by the year 2010 in Pennsylvania, Maryland and Virginia.

Constructing Wetlands To Remove Nutrients and Reduce Highway Runoff. Since the early 1990s, SRBC has created three artificial wetlands to improve water quality by reducing the amount of nutrients and pollutants reaching ground water. The Halifax and Conestoga wetland sites are intended to remove nutrients from agricultural runoff while the Newville site is to remove pollutants such as oil, antifreeze and other wastes from highway runoff.

Stream Assessment. SRBC's stream assessments provide information to many state agencies and local groups for watershed management. Under a grant from Pennsylvania Department of Environmental Protection, SRBC has been helping Pennsylvania assess its free-flowing waters since 1997. During that time, assessments have been performed on twelve state water plan watersheds in the Susquehanna River Basin, including the Conestoga River in Lancaster County, the Conodoguinet Creek in Cumberland County, Clearfield Creek in Clearfield County and the Tioga River in Tioga County. This project involves identification of macroinvertebrates, habitat assessment and field water chemistry. SRBC staff performs additional assessment work during surveys of the Susquehanna River's six subbasins and yearly interstate stream sampling.

Total Maximum Daily Loads and Source Water Protection. SRBC is working with EPA and the states to prepare Total Maximum Daily Loads (TMDLs) in selected streams in the basins. A TMDL specifies the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and allocates pollutant loadings among the various sources in a watershed. SRBC assists stream restoration efforts of local watershed groups and conducted a pilot source water protection project in the Swatara Creek Watershed in Central Pennsylvania. SRBC is performing an important role in coordinating TMDL and source water protection work in watersheds that cross state lines.

Working In Partnership. Protection of the Chesapeake Bay is a large effort, involving many state, federal and local agencies, and private organizations and businesses. For best results, all these groups need to work cooperatively. SRBC

performs an important liaison role with New York and upstream areas in Pennsylvania. SRBC is committed to that partnership, and participates on bay program committees and subcommittees that deal with water quality and watershed management.

What role has SRBC played in the migratory fish restoration program?

SRBC played a leadership role in forging agreements for electric utilities to support migratory fish restoration and to build fish passage facilities at four hydroelectric dams in the lower Susquehanna River, allowing shad and other migratory fish to return to their historic spawning waters.

Included in SRBC's comprehensive plan is a set of goals for restoring the populations of shad and other migratory fish. The goals are:

- ◆ To restore, through the use of fish passage facilities and other means, migratory fish species such as American shad, hickory shad, blueback herring, alewife, striped bass, and American eel.
- ◆ To achieve an annual spawning population of two million American and hickory shad above the York Haven Dam within 25 years of the development of suitable fish passage facilities at Conowingo, Holtwood, Safe Harbor and York Haven dams, and to provide suitable habitat conditions for these species above these dams.

The multi-million dollar shad restoration program on the Susquehanna River is the largest of its kind in the United States. The fish lifts will provide for a gradual restoration of shad and other migratory fish to the Susquehanna, along with associated economic, recreational and ecological values.

In 1996, with the startup of the new fish lift operations at the Safe Harbor and Holtwood hydroelectric facilities, the lower dam at Conowingo passed more than 103,000 American shad, surpassing by 70 percent the previous record set in 1995. Of the American shad that passed the Conowingo lifts, the Holtwood lifts passed 28,063 and the Safe Harbor passed 20,828. In the year 2000, fish passage will be provided on the Susquehanna River upstream as far as Sunbury, Pa., about 120 miles upstream of the point where the river flows into the Chesapeake Bay.