

The Severn and the Chesapeake Bay

The Chesapeake Bay is a body of water and, like a human body, its health depends on what goes into it. But, as everyone knows, the Chesapeake is not as healthy as it once was. The problems stem, in part, from the declining quality of the rivers that feed the Bay. This fact sheet explains how the Severn River contributes to the Bay and outlines some ways to help you keep the river clean.

THE HISTORIC SEVERN: MARYLAND'S SCENIC CAPITAL RIVER

In the 1700s, Annapolis, the seat of Maryland's colonial government, became a wealthy and cultured town made prosperous by a busy port and the productivity of surrounding farms. Annapolis' prosperity was due, in part, to its location beside the Severn River. The banks of the Severn had been settled by Puritans beginning in the 1650's. Tobacco was well suited to the soil and soon became the major crop and export of the region. But by 1714, tobacco crops began to deplete the soil and erosion had become severe enough to push colonists north and west. Baltimore Harbor soon replaced the Severn as a transport center, and Annapolis' status as a major port ended. However, it remained an important political and military center, serving briefly as the nation's capital after the Revolution. In 1845, the Naval Academy was established along the Severn, and the Academy's steadily expanding boundaries soon grew to include much of old Annapolis and part of the harbor as well.

With the coming of the railroads in the late 1800's, residential development flourished along the upper Severn. The shores of the river were popular as resort communities and summer estates for the well-to-do until the 1930's when many structures were converted to year-round residences. After World War II, development further intensified as roads and bridges were improved and Anne Arundel County became more accessible to new residents who commuted to jobs in Baltimore and Washington.

Today about half of the 70 square mile Severn watershed is still forested and 10 percent is farmed while 40 percent has been developed. After two hundred years of enjoying relative quietude in the shadow of Baltimore and Washington, Anne Arundel County is a metropolis in its own right. In 1987, the population of Anne Arundel County was approximately 410,000, with about 100,000 people concentrated in the Severn River watershed. The population in the area is expected to increase by 10 percent through 1995. As with all the rivers that feed the Chesapeake, human use of the Severn is taking an increasing toll on the natural treasures of the river.

NATURAL TREASURES OF THE SEVERN

The 23 mile long Severn was declared a Scenic River by the General Assembly of Maryland in 1971. It is unique among the rivers of Anne Arundel County for its steep cliffs and deep ravines where forest "giants" of red oak and tulip poplar grow trunks four and five feet in diameter. The nine-mile headwater portion of the river, called Severn Run, is banked by red maple and river birch and provides a home for the extremely rare climbing fern. Jabez Branch, a tributary of the Run, may still harbor Maryland's southern most natural population of trout, although the population is dwindling.

At the lower end of the Run, the tidal Severn begins. The daily rise and ebb of the

tides here make the Severn's connection to the Chesapeake Bay unmistakable. This section of the river also includes magnificent wetland areas such as Sullivan's Cove Marsh and Round Bay Bog, which are highly valued for supporting abundant plant and animal life. The bowl-shaped Sullivan's Cove Marsh attracts many creatures including ducks, egrets, ospreys, and muskrats. Bogs, which form when acidic soils become saturated by standing water, are suitable homes for highly specialized plants. Among the unusual plants in Round Bay Bog are cranberry and Virginia chain fern.

A recent analysis for the Severn River Commission, titled "Gems of the Severn", identifies 500 similar "gem" sites along the Severn that are important for their ecological value, historic uniqueness or archaeological significance. Strong programs to plan and implement efforts to preserve these and other exceptional sites are recommended by the Commission, which advises government officials on environmental and zoning matters that affect the Severn River watershed.

As one moves downstream, the influence of the Chesapeake Bay becomes obvious -- and the waters more crowded. The short side branches, or creeks, of the Severn are especially popular recreational areas. Boaters, swimmers, anglers, and crabbers all vie for space in the coves and creeks where species such as striped bass, blue crabs -- and jellyfish -- enter the Severn to feed in the salty water. Oysters could once be found in the shallower reaches, but remain only in scattered areas, while harvesting them is often prohibited because of contamination by pollution.

THREATS TO THE SEVERN

Indeed, the natural wealth of the Severn is imperiled both by threats in the water and by activity on the surrounding land.

Commercial and residential development, shoreline erosion, runoff from farms, urban runoff, and inadequate public sewers and private septic systems all lower the water quality of the Severn.

Many of the threats to water quality are interrelated. For example, faulty or overworked public sewage systems, and private septic systems as well, allow pollutants such as phosphorus and coliform bacteria in the river. Chlorine, which is often used to treat sewage before it is discharged, can sometimes enter the water as well, where it poisons aquatic life.

Sewers are necessitated by residential development which can also be a prime cause of erosion. If sediment and erosion controls are inadequate, land clearing and grading can cause massive damage to the watershed. Soil and solid debris from the construction site washes into the creeks and river where the sediments fill headwater areas and cause the water to become turbid, reducing light available to aquatic plants. When sediment is deposited on marshes, it temporarily reduces their productivity and it can also irritate the gills of fish and smother oyster beds.

When cleared land is paved, another problem merges -- urban runoff. Without vegetation to stop and absorb it, stormwater rushes into the river carrying with it motor oil, paper trash, lawn fertilizer, pet waste, and other pollutants. It also picks up heat as it travels over paved surfaces and officials believe that may be the reason why natural populations of trout have apparently disappeared from Jabez Branch and the headwaters of the Severn.

In addition to more pollution, more residents mean greater demand on the water recreation sites in the region. The steep shores of the Severn already suffer erosion from the combined effects of power boat wakes and rising sea levels. Boats moored in the numerous marinas along the Severn also lower water quality by contributing bilge wastes, motor oil and -- until a recent ban was enacted by the Legislature--toxic compounds such as TBT, a boat paint additive.

WAYS TO PRESERVE THE SEVERN

In 1983, the Maryland Wild and Scenic Rivers Review Board endorsed many recommendations made by a citizens advisory committee that examined the threats to the Severn and suggested ways to balance the desires of humans with the needs of fish and wildlife in the watershed. The recommendations included the adoption of more effective land use regulations to protect sensitive natural areas, the restoration of damaged buffer zones, and limits on the number of home sites in any subdivision. Other recommendations are related to shoreline protection, water quality improvement, erosion reduction, stormwater management, land preservation, recreation, education and improved watershed management.

More recently, Maryland's Critical Area Program has begun to create dramatic changes for land use development along the Severn. Landowners within a 1,000 foot strip along the tidal portions of the river now face restrictions on the density of new development and any new subdivision within the critical area must make special efforts to provide buffer zones along the waterway. If rigorously applied and enforced, these steps could be an important means of ensuring that development in the Severn occurs in a wise and responsible fashion.

As the 1980's came to a close, the Severn River Commission undertook an evaluation to determine how effectively the recommendations of the Review Board were being implemented. It found that while many recommendations were being implemented much work still needed to be done. A recommendation to develop a comprehensive watershed management plan for the Severn was received favorably by the county government in 1991. The purpose of the plan is to outline how the river, surrounding lands, and groundwater resources can be most effectively managed. Continued monitoring of the Severn's water quality is also essential. The limited monitoring data collected so far has indicated fair to good water quality and yet - paradoxically - populations of certain fish species, such as yellow perch, and bottom-dwelling organisms, such as oysters continue to decline, indicating a problem that is still not understood.

In all likelihood, the problems of the Severn go beyond the confines of the watershed itself. The exchange of large quantities of water with the Chesapeake means that the future of the Severn is inextricably linked to the future of the overall Bay cleanup program. In December 1987, the Bay states and the federal government joined in signing a far-reaching accord that sets forth more than a dozen strategies to address crucial Bay issues -- such as nutrient pollution, population growth and development and wetlands protection -- that will also affect the Severn.

WHAT YOU CAN DO

As important as federal, state and county efforts for cleaner water are, concerned people are still the Severn's primary guardians. The Severn River Association, for example, a group of concerned private citizens, has kept watch over the river since 1903, making it one of the nation's oldest river protection organizations. You, too,

can help keep the Severn beautiful.

If your property has a private septic system, be sure it is cleaned and maintained regularly. Whenever possible, replace solid paving with gravel or vegetation that will trap stormwater. Limit fertilizers and if your land is on a steep grade, take steps to prevent erosion by encouraging the growth of shrubs and other dense ground cover. Make sure that you properly maintain and operate engines and sanitation devices on your boat. Properly dispose of toxic and hazardous substances including oil, paint, anti-freeze, etc., instead of pouring them on the land or into storm drains that go directly into the River. Finally, let your representative in the government of the city of Annapolis, Anne Arundel County and the state of Maryland know that you and others require that Maryland's Scenic Capital River be restored to good health and sustained for the future.