

The Anacostia 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. The Chesapeake is fed by 10 major rivers and numerous smaller streams that flow out of Virginia, Maryland, Pennsylvania, and Delaware. The rivers bring the nutrients and fresh water that, when mixed with the ocean's salt water, make the Chesapeake Bay the most productive estuary in the United States.

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 Anacostia River contributes to the Bay and outlines some ways to help you keep the river clean.

THE BASIN

The Anacostia proper begins at Bladensburg, Maryland, where the two principal branches of the Anacostia-the Northwest and Northeast branches-meet. The many smaller tributaries of the branches form a broad, fan-shaped drainage basin of 17-square miles. Just below Bladensburg, the Anacostia drops to near sea level and changes from a free-flowing river into a tidal freshwater embayment of the Potomac estuary.

The Anacostia provides a safe harbor for many recreational boaters in the D.C. area. Much of the shoreline of the Anacostia is publicly owned and there is a stream park in almost every portion of the basin. Within the District of Columbia's borders are the Kenilworth Park and Aquatic Gardens, Fort Dupont Park, and Anacostia Park. The National Arboretum also is adjacent to the Anacostia. These natural areas support an array of plant and animal communities and bring a host of outdoor opportunities within reach of many city residents.

ANACOSTIA RIVER - LAND USE STATISTICS

Urban 44%
Wooded 29%
Pasture 15%
Cultivated 8%

Surface Mines,
Sand & Gravel
Operations,
Construction Sites 4%

The sluggish waters of the tidal Anacostia slow and trap sediment and other pollutants that wash into the river. Thus, whatever gets into the Anacostia stays there.

What gets into a river depends a lot on how the land around the river is used. Within the Anacostia basin, land use takes many forms. Outside the Capitol Beltway, rural and suburban areas dominate, while inside the Beltway the landscape becomes increasingly urban. Each type of land use contributes characteristic pollutants to the Anacostia.

ANACOSTIA: TROUBLED WATERS

The Anacostia has been called a lot of dirty names. Words like noxious, foul, and contaminated are frequently applied to this main tributary of the Potomac, a river with headwaters in rural Prince George's and Montgomery counties in Maryland and a main channel in the densely populated sections of Washington, D.C.

The Anacostia's troubles go back a long way. During the eighteenth and nineteenth centuries, large portions of the river's basin were cleared for tobacco, corn, and cotton. Severe erosion followed and sediment accumulated in the Anacostia. (The Anacostia was prone to sedimentation even in its natural state, because of the composition of the surrounding soils.) By the mid-nineteenth century, it was impossible for ocean-going ships to navigate up river to the once thriving port of Bladensburg.

Suspended sediment in the Anacostia limits the river's ability to support game fish and other aquatic life. Other conditions, including high levels of ammonia and harmful bacteria, low amounts of dissolved oxygen, and excessive amounts of trace elements such as iron, lead, and zinc add to the Anacostia's share of troubles.

While other rivers in the Washington, D.C., area have benefitted from federal and state cleanup programs, relatively little time or money had been spent on improving the Anacostia until recently. The real turning point for this long-neglected watershed came as a result of the historic Anacostia Watershed Restoration Agreement of 1987. The agreement affirms the commitment of the jurisdictions that share the watershed—the District of Columbia, Maryland, and its two affected counties, Montgomery and Prince George's—to restore the water quality and aquatic life of the Anacostia.

PROBLEMS

The Anacostia watershed suffers from high levels of suspended solids, nutrients, and bacterial loadings, and its aquatic system is under significant stress.

The oldest and most severe of the Anacostia's problems is erosion and sedimentation in its upper tributaries and tidal river. Sediment is a serious water pollutant. It reduces light, damages sensitive organisms, contaminates habitats, and can carry unwelcome travelers such as excess nutrients and toxic materials.

From colonial times until the 1930s, the prime source of sediment was runoff from land being cleared and farmed. Soil conservation practices introduced in the 1930s, and an evolution of land use from agriculture to urbanization in the decades that followed changed the prime source of sediment. By the 1980s, a good half of the watershed was urbanized, the result of which has been significant increases in sediment-laden storm runoff. The Anacostia's sediments are enriched with toxics, hydrocarbons, trace metals, nutrients, and carbon.

A second major pollutant in the Anacostia is disease-causing bacteria. Fecal bacteria indicate a threat to human health and make swimming and other body-contact activities in the Anacostia watershed (particularly in the tidal portion) a risky business.

Storm overflows from the District of Columbia's combined sewer system have been

the principal cause of high fecal coliform concentrations in the tidal river. Other sources of fecal contamination are faulty septic systems, and livestock and pet feces.

The most serious water quality problem in the tidal river is low dissolved oxygen. Oxygen is required by aquatic life for basic metabolic processes. Untreated wastes in the tidal river, when combined with relatively large amounts of nutrients getting into the river farther upstream, cause the depletion of dissolved oxygen in the water.

High summer water temperatures are another major concern. Water temperature determines which organisms can live in a stream reach. There are many lengthy reaches of tributary streambanks, particularly in the lower portion of the upper watershed, without shade-providing vegetation.

In addition to the compromised fish habitat and incidents of low dissolved oxygen, Anacostia fisheries have been adversely affected by fish barriers. The annual migration of river herring has been stopped by many unintentional fish barriers erected along the lower portion of the Anacostia watershed.

The effects of continued urbanization on Anacostia streams is of prime concern. The population, which reached 569,000 by 1980, is expected to increase 17 percent by the year 2010.

PROGRESS TOWARD GOALS

Almost 60 local, state, and regional governmental agencies are undertaking initiatives to restore the Anacostia River and its tributaries. These initiatives are outlined in annual work plans adopted by the Anacostia Restoration Committee, and reflect a six-point action plan.

GOAL No. 1: Dramatically reduce pollutant loads in the tidal estuary to measurably improve water-quality conditions by the turn of the century.

Millions of dollars have been committed to the reduction of the combined sewer overflows in the District of Columbia. The rehabilitation of the aging suburban sanitary sewer network has already begun. Some reclamation of surface mines has been accomplished. About 170 stormwater retrofit facilities to treat runoff from older, developed areas have been identified. Of that number, thirty-six percent have been completed or are in progress. All new development in the watershed is now required to conform to stringent requirements for sediment and storm-water control. Efforts are underway to remove trash and debris from the tidal river and tributaries, and to stop it at entry points.

GOAL NO. 2: Restore and protect the ecological integrity of degraded urban Anacostia streams to enhance aquatic diversity and encourage a quality urban fishery.

Several government agencies within the District of Columbia and Maryland have initiated stream habitat improvement projects. Some private organizations also are providing support. Local governments are committed to ensuring that new development activity has the smallest impact on existing streams systems.

GOAL NO. 3: Restore the spawning range of anadromous fish to historical

limits.

A major fish barrier was removed in 1991, and plans are underway for the systematic removal of other barriers. A project to manually transport anadromous fish over existing barriers so that they can imprint the unique chemistry of the newly opened spawning range, and return to the same spots year after year has been initiated.

GOAL NO. 4: Increase the natural filtering capacity of the watershed by sharply increasing the acreage and quality of tidal and non-tidal wetlands.

Efforts are underway to restore both tidal and freshwater wetlands. A project to restore the last remaining tidal Anacostia marsh has been completed. It is estimated that 125 acres of freshwater wetlands will be created by 1994 as a result of the stormwater retrofit program alone, with many additional sites also possible. New federal and state regulations should help reverse the alarming non-tidal wetland loss.

GOAL NO. 5: Expand the forest cover throughout the watershed and create a contiguous corridor of forest along the margins of its streams and rivers.

The three local governments that are parties to the Anacostia Watershed Restoration Agreement have active watershed reforestation programs. Dozens of acres of riparian sites already have been reforested, and plans are underway to reforest at least ten linear riparian miles by 2000. The enforcement of the 1991 State Forest Conservation Act should significantly reduce the loss of forest cover from new development in Maryland.

GOAL NO. 6: Make the public aware of their role in the Anacostia cleanup, and increase their participation in restoration activities.

A strong public outreach program was initiated in 1988. By 1991, more than 40,000 people had been reached in a variety of ways such as newsletters, slide presentation, streamwalks, exhibits, and education publications. A program to educate area students on the Chesapeake Bay has been initiated. A small habitat improvement program with small-scale projects for implementation by citizen volunteers has been designed. Tree planting, wetland creation, storm drain stenciling, and stream cleanup projects involving citizens have been underway for several years.

How You Can Help

- Public involvement is a significant part of the restoration effort.
- Prevent erosion: keep your yard grassed and use splash blocks at downspouts.
- Recycle used motor oil and antifreeze. Don't dispose of used oil or trash in storm drains.
- Don't litter, and report illegal dumping.
- Report clogged catch basins.
- Report sediment control violations.