

# Water Quality & Quantity

The Piedmont Basin's many streams, wetlands, and tidal rivers support uniquely diverse fish and wildlife populations, provide abundant recreational opportunities, and supply approximately 70% of the drinking water for New Castle County.

As recently as 1975, Delaware routinely experienced serious water pollution and public health problems as a result of the discharge of untreated sewage. Since then, as a result of voluntary efforts, regulatory actions, and significant private and public investments in wastewater treatment facilities, localized improvements in water quality have been achieved.

However, the need for additional cleanup and pollution prevention continues. The focus of water-quality management has shifted from point source discharges (end-of-pipe) to decreased stream flows and nonpoint source problems, such as urban and agricultural runoff, erosion, and sedimentation. Unaddressed, these problems lead to poor habitat conditions for fish and other aquatic life, decreased enjoyment of



Meeting the needs of aquatic life that depend on adequate stream flows as well as the needs of people who depend on the water for drinking and industrial uses is a difficult management challenge.

our surface waters for recreation, and unhealthy conditions for those surface waters upon which New Castle County relies for the majority of its water for drinking and other domestic uses. Delaware is working to enhance its interstate cooperation with Pennsylvania since many of the streams that drain the Piedmont Basin flow from Pennsylvania.

## WATER RESOURCE ISSUES

A host of water resource issues have arisen in the Piedmont Basin over the past several years, from addressing increased demands for drinking water to restoring wetlands.

A preliminary assessment of water-quality data, completed in 1996 for the Piedmont Basin, indicates a decline in water quality. The study characterized water quality and identified existing and potential problems in streams. In some cases, water-quality criteria were frequently violated, or trends indicated potential future problems, or both.

## FISH CONSUMPTION ADVISORIES

In April 1996, a public health advisory on the consumption of fish taken from several

streams in the Piedmont Basin was issued due to elevated levels of *polychlorinated biphenyls* (PCBs) in the fish.

Specifically, the advisory recommends *no consumption* of any finfish caught in the tidal portion of the Christina River (from the mouth to Smalley's Dam), the tidal portion of Brandywine Creek (from the mouth to Baynard Boulevard), the tidal portion of White Clay Creek (from the mouth to Route 4), and Little Mill Creek (from the mouth to Kirkwood Highway).

The advisory recommends only *limited consumption* of fish caught in the nontidal areas of the Christina River (from Smalley's Dam to Interstate 95), White Clay Creek (from Route 4 to Paper Mill Road), and the nontidal portion of Brandywine Creek (from Baynard Boulevard to the Pennsylvania state line). Fishermen and their families eating fish caught in the areas where a limited consumption advisory has been issued are advised to limit their meals of fish from these waters to no more than one 8-ounce meal per month. The advisory also reaffirms the existing advisory on Red Clay Creek, which recommends *no consumption* of fish caught in that waterway.

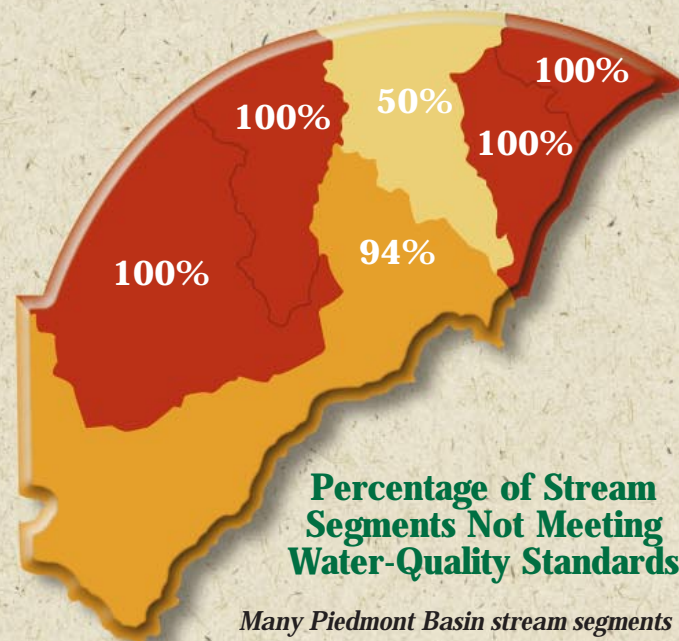
## WATER SUPPLY

Delaware has a long-established water-supply management program that involves allocation, conservation, and planning. Water utilities, both municipal and investor-owned, supply almost all water used in the Piedmont Basin. There are three major sources of supply: streams, groundwater, and transfers from Pennsylvania, which altogether yield in excess of 100 million gallons per day.

Water supplies are usually plentiful, but Delaware can have shortage problems during droughts when there simply is not enough available water especially for systems dependent on stream flow. Shallow wells also are susceptible to declining water tables during droughts. Since Delawareans rely on groundwater for drinking purposes, the protection of groundwater resources is critical.



Delaware's waterways are a valuable recreational resource. A recent survey showed that 1996 fresh-water angler expenditures in Delaware had an overall impact of \$81 million.



Percentage of Stream Segments Not Meeting Water-Quality Standards

Many Piedmont Basin stream segments do not meet water-quality standards for fishing, swimming, or drinking.

## Challenges for the Future

Delaware will continue to focus on point source and nonpoint source pollution problems such as urban and agricultural runoff, erosion and sedimentation, and groundwater contamination.

- ◆ The Department will emphasize pollution prevention, education, and both voluntary and regulatory efforts to improve the quality of surface and groundwater resources.
- ◆ Additional research and assessment efforts will be necessary to better understand how aquatic systems respond to certain pollutants. The relationship between stream flow and ecological health will require the development of a surface-water withdrawal/minimum stream-flow policy.
- ◆ Plans will continue to address water-supply problems during drought conditions. Improved assessment and management of biological health and physical habitat quality are also priorities.