aquatic habitat and sensitive aquatic species such as brown trout by reducing the base flow and increasing the temperature levels in stream systems.

DRAINAGE BASINS IN MONTGOMERY COUNTY, MARYLAND

Basin	Area (Square Mile)
Bennett Creek	10
Little Bennett Creek*	18
Broad Run	14
Cabin John Creek	25
Fahrney Branch	1
Furnace Branch*	1
Haights Branch	3
Hawlings River	28
Horsepen Branch	7
Little Branch	6
Little Falls Branch	5
Little Monocacy River	18
Minnehaha Branch	1
Muddy Branch	19
Northwest Branch	30
Paint Branch	15
Patuxent River	27
Potomac River	34
Rock Creek	61
Rock Run	5
Scott Branch	2
Seneca Creek Basin*	29
Dry Seneca Creek	19
Great Seneca Creek	62
Little Seneca Creek	39
Sligo Creek	9
Watts Branch	22

* *Areas that drain directly into this river or stream*

4. SURFACE WATER

Montgomery County's rivers, lakes and streams provide drinking water, recreational opportunities, and wildlife habitat, and are an important link in the ecosystem. Most of this surface water comes from naturally occurring run-off from rain and snow. All of the lakes in the County are man-made. The larger lakes were built for flood and sediment control and water supply. As is the practice elsewhere, some County waters also are used to receive treated sewage, excess stormwater run-off, and unauthorized disposal of solid and liquid wastes. Ultimately, all Montgomery County waterways flow into the Chesapeake Bay.

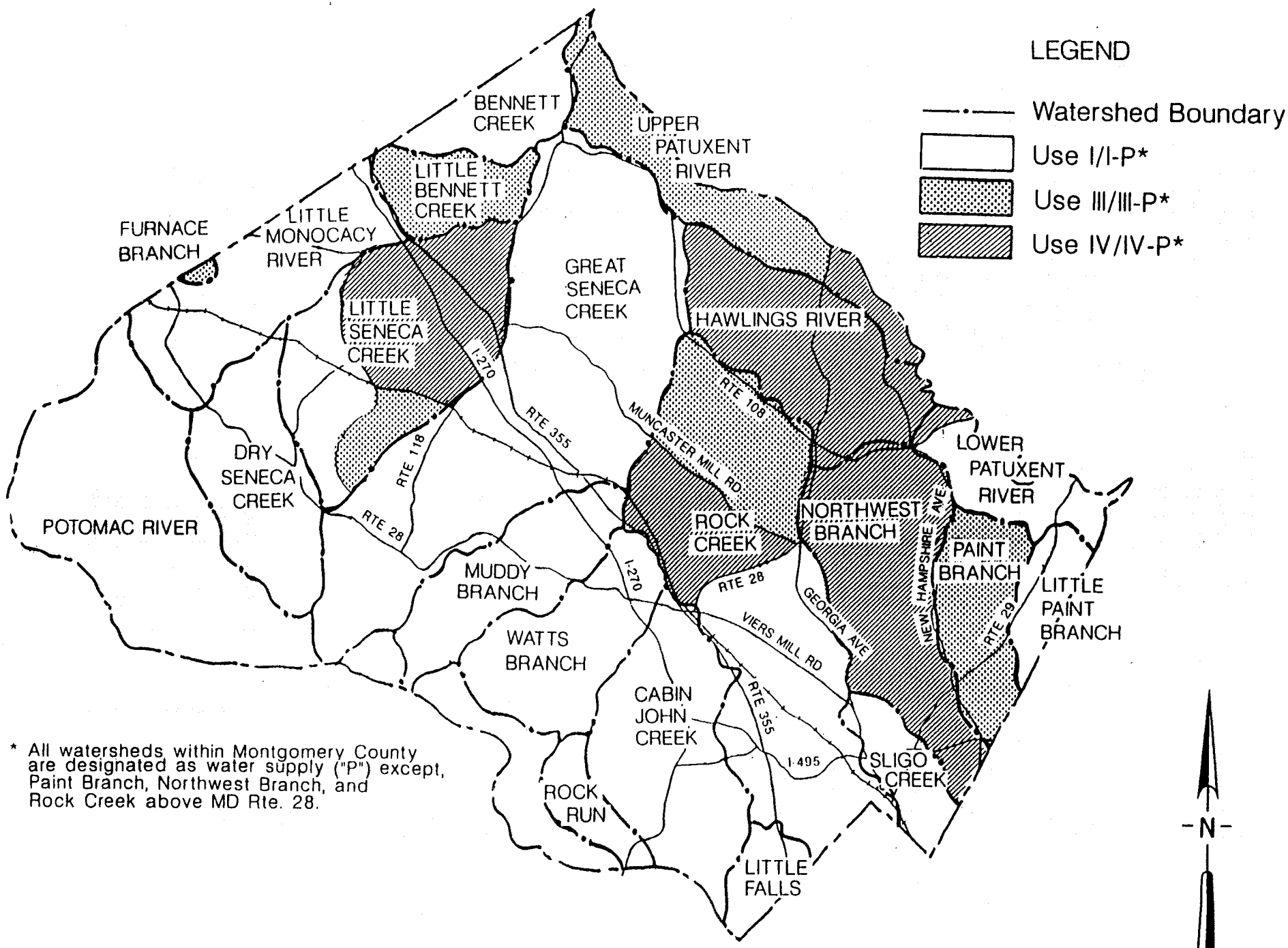
Increased sensitivity to the quality of the Bay and other waterways led to the passage of federal, state, and local regulations aimed at improving water quality.

*** The water quality in the Potomac River, which forms the western boundary of the County, has improved dramatically since 1970.** Stringent controls required by federal, state, County, and local regulations on point source and non-point source pollution in tributary streams have helped to improve the Potomac's water quality. The Potomac's clean up served as a national model.

*** Montgomery County development guidelines, approved in 1983, have provided increasingly strict stream valley buffers to protect Use I, III and IV streams.** Montgomery County contains three of four use classes designated by the State. These are: Use I (suitable for human contact, fish and plant growth); Use III (capable of supporting naturally-reproducing trout populations); and Use IV (capable of supporting stocked adult trout for fishing). There is no Use II (shellfish harvesting) water in the County. The State may change the use class of a stream where the water quality has improved. Seneca Creek, below Little Seneca Lake, was recently upgraded to a Use III stream.

Montgomery County's guidelines require stream buffers that range from 100 to 200 feet on each side of a stream, depending on the state use classification and adjacent slopes. These buffers exceed the state recommended 50 foot buffers. In the Patuxent Primary Management Area, the Planning Board also applies guidelines for the location of development within one-half mile of the Patuxent and Hawlings rivers.

STATE WATER CLASS USES FOR MONTGOMERY COUNTY STREAMS



* All watersheds within Montgomery County are designated as water supply ("P") except, Paint Branch, Northwest Branch, and Rock Creek above MD Rte. 28.

Source: Montgomery County Planning Department Environmental Planning Division (Nov. 1991)

*** Water quality continues to need improvement.** Although point sources of pollution such as direct stream discharge of raw sewage have been curtailed significantly, non-point source pollution, such as untreated stormwater runoff from parking lots, is more difficult to control and continues to be a significant problem. The County discontinued its water quality monitoring program in 1980. The lack of County-wide information precludes a full historical assessment of water quality and limits the ability to quantify future impacts through computer modeling and statistical analysis. However, information from special studies is available for limited areas of the County including Watts Branch, Seneca Creek and Paint Branch. Although water quality has improved in the Potomac River; it has declined in other waterways.

*** Maryland, Virginia, Pennsylvania, Washington, D.C., the U.S. Environmental Protection Agency, and the Chesapeake Bay Commission signed the 1987 Chesapeake Bay Agreement to provide comprehensive guidance for minimizing the negative impacts of land activities in the Chesapeake Bay drainage area.** The agreement provides specific goals for improving the Bay such as a 40 percent reduction in nutrient pollution by the year 2000.

5. WETLANDS

The important role of wetlands as natural filters in maintaining water quality is acknowledged at the federal, state, and local levels. It is recognized that loss of wetlands means decreased water quality protection, flood control, and wildlife habitat. Wetlands also are vulnerable to offsite, indirect impacts such as hydrologic alterations and pollution.

*** Regulations regarding the definition of, and allowable impacts to wetlands continue to evolve.** Wetlands are defined by the Planning Board's guidelines for Environmental Management of Development in Montgomery County, Maryland as "an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation." The federal definition of wetlands is currently under review.

Information on the location of major wetland areas in the County is available through Maryland Department of Natural Resources maps. The Montgomery County Planning Department requires more accurate delineations of wetlands by a developer's engineer during the development review process. This detailed delineation is also required by federal and state agencies as part of their permit review processes.

*** Several levels of government regulate the impacts of development and construction activities on wetlands.** The intent of the various County, state, and federal regulations and guidelines is to first, avoid impacts; second, minimize and mitigate impacts; and third, replace wetlands lost through development. The creation of functional and sustainable replacement wetlands is both land intensive and expensive. The impacts of wetland avoidance and mitigation play a critical role in the development of public facilities and private projects.

*** The Maryland Department of Natural Resources has identified twelve areas in Montgomery County as non-tidal wetlands of special state concern.** These include the Germantown Bog, Canal Bottomland, and McKee-Beshers West Swamp and are identified on the map. Excavation, filling, or other modification within a buffer of 100 feet of these wetland areas needs state permits. In contrast, disturbance of other non-tidal wetlands requires permits within only a 25-foot buffer. Both cases require water quality certification by the Maryland Department of the Environment as required by the Clean Water Act.