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october 1995

TECHNICAL REPORT

# Upper Paint Branch

WATERSHED PLANNING STUDY

The Maryland-National Capital Park & Planning Commission  
Montgomery County Planning Department

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8787 Georgia Avenue ♦ Silver Spring, Maryland 20910-3760

# Abstract

**Title** Upper Paint Branch Watershed Planning Study

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**Abstract** This report documents the current conditions of the upper Paint Branch stream system, projecting future conditions through analysis of current and potential recommendations formulated by an interagency work group for employing various watershed management measures within each major subwatershed within this area.

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# Executive Summary

This study examines the body of knowledge on the urbanization impacts on the water resources of Paint Branch, estimates future impacts, and formulates a land use and regulatory strategy to preserve these resources. It is intended to be used to help develop land use recommendations in the current updates to the *1981 Eastern Montgomery County Master Plan* and to help guide modifications to current environmental regulations, guidelines, and programs to ensure the continuing protection of the Paint Branch system.

The Paint Branch supports a naturally-reproducing brown trout population, which has been recognized and monitored since the early 1970's. This long-term presence of a self-sustaining trout fishery makes Paint Branch a unique, high quality resource for Montgomery County. The *1981 Eastern Montgomery County Master Plan* recognizes the fishery as being so valuable for the County that special measures to protect the resource were adopted as part of the Plan. In addition, in July, 1995, the Montgomery County Council designated the upper Paint Branch as a Special Protection Area to enable the application of more rigorous water quality protection measures for new development.

Extensive monitoring of the stream system for over 20 years, primarily by the Maryland Department of Natural Resources, indicate that the critical part of the system, namely the stream system north of Fairland Road (i.e., upper Paint Branch), is experiencing increasing stress within roughly the past 5 to 10 years. This study's examination of land use and land cover changes within the watershed, represented in part by impervious cover, shows that the upper watershed has experienced some development since the adoption of the *1981 Master Plan*. Even with the limited amount of

development, the small streams that make up the Paint Branch system only have limited and finite abilities to absorb and withstand adverse conditions imposed on them before the system irreversibly degrades and the unique resource is lost.

The increased stress documented in upper Paint Branch is attributed to many factors. Generally, these include: cumulative adverse impacts of uncontrolled stormwater runoff from individual, small developments that add to uncontrolled runoff from larger subdivisions predating stormwater management regulations; continuing loss of forest cover in the watershed; increasing impervious cover in the watershed; and limited effectiveness of engineered best management practices.

From the information and analysis presented in this study, it is concluded that **degradation to the Paint Branch system and irreversible damage to its natural resources, including the brown trout fishery, will occur if significant modifications are not made to the 1981 Master Plan land uses and to existing environmental regulations and guidelines governing new and existing development within the watershed.**

This study presents recommendations to protect the brown trout fishery and other natural resources of Paint Branch over the long term. These recommendations have been formulated by a technical work group consisting of representatives of State and County environmental regulatory and resource management agencies. These agencies include the Maryland Department of Natural Resources (DNR), the Maryland Department of the Environment, Metropolitan Washington Council of Governments, Interstate Commission on the Potomac River Basin, M-NCPPC Montgomery County Planning

Department and Department of Parks, Montgomery County Department of Environmental Protection (DEP), and Montgomery County Office of Planning Implementation.

The recommendations to protect Paint Branch follows a comprehensive watershed-based, stream system approach and include the following components:

- The highest level of preservation and protection of natural areas within the most critical and fragile areas of the Paint Branch watershed. This involves park acquisition of much of the remaining developable land in Good Hope and Gum Springs tributaries, the two most important trout-spawning and nursery streams in the system. It also involves park acquisition of key properties or parts of properties in the Left Fork and Right Fork tributaries in order to preserve the high quality, cold baseflow features of these streams and to minimize the ability of existing and future land development activities to degrade the streams.
- More stringent control and management of the location and amount of future impervious cover and the associated land disturbance and land cover changes in the less critical and less fragile parts of the watershed through a combination of an environmental overlay zone and the application of the Special Protection Area (SPA) Law and the 1981 Master Plan Performance Criteria for new development.
- Increased efforts for identification and implementation of solutions to current problem areas and stressed conditions in the stream system.
- Development of an upper Paint Branch watershed management plan that integrates the various programs, policies, and regulatory and implementation tools into a comprehensive plan for long-term protection of the stream system. Such a plan could be part of an SPA Conservation Plan that DEP is proposing to develop for the watershed.