Patuxent River Profile

The Patuxent River watershed in Montgomery County drains to the two-reservoir systems maintained by Washington Suburban Sanitary System (WSSC): the Triadelphia and Rocky Gorge Reservoirs. The Patuxent River begins in Frederick County and then flows through seven other counties: Howard, Montgomery, Prince George's, Anne Arundel, Charles, Calvert, and St. Mary's Counties. It is a major tributary to the Chesapeake Bay and has been the focus of interjurisdictional watershed protection since the early 1980s. In Montgomery County, there are three subwatersheds: Upper Patuxent (Triadelphia Reservoir), and the Lower Patuxent and Hawlings River (Rocky Gorge Reservoir). The total drainage area of these subwatersheds is approximately 61 square miles - about seven percent of the total Patuxent River basin and about eleven percent of the County's total land area. Principal land uses in the Patuxent Reservoirs watershed are agricultural cropland, pasture, and large lot residential, with many large areas of forested parkland. Since 1996, there has been a local, interjurisdictional agreement to protect the resources of the reservoirs, tributaries, and contributing drainage.

The Upper Patuxent subwatershed is largely rural and residential, including portions of Damascus. The Upper Patuxent River supports a naturally reproducing brown trout population and Maryland Department of Natural Resources has designated this reach as a special catch and release stream above Triadelphia Reservoir. The streams in this subwatershed are generally of high quality and many serve as reference streams for the County's stream monitoring program.

The Hawlings River begins south of the intersection of Routes 108 and 650, and flows into the Rocky Gorge Reservoir. There are three distinct land types associated with the Hawlings River. The headwaters are characterized by rolling agricultural lands. The middle area has a steep, narrow valley with a rocky grade where stream velocity increases substantially, and is protected by the Rachel Carson Conservation Area. The lower portion of the stream transitions into a sandy loam floodplain. The transition in geology, combined with uncontrolled storm flows from the Olney Mill tributary have resulted in severe bank erosion and scour pools.

Of the three subwatersheds to the Patuxent Reservoirs, the Hawlings has the most urban/suburban uses, including drainage from Olney and Brookeville. There is also significant drainage from the closed Oaks Landfill. Regional instream stormwater ponds were used in several tributaries of Reddy Branch. This type of structure reduces instream habitat upstream from the structure due to the need for heavy bank armoring to prevent erosion. Restoration activities have been undertaken in several areas to address some of the problems associated with the high density development that has taken place in these tributaries.

The Lower Patuxent subwatershed consists of the drainage area downstream of the Hawlings River and continues to the County line. This area primarily receives drainage from areas of

agricultural and large lot developments and flows into the Rocky Gorge Reservoir. The mainstem and lower reaches of the main tributaries are protected by state park lands and a forested buffer also protects the WSSC Reservoir; however, streams in the Lower Patuxent tend to exhibit higher levels of impairment than the upstream tributaries.

The County is developing a detailed implementation plan for the Patuxent Reservoirs watershed to meet its stormwater permit requirements and watershed restoration goals. This overview profile contains a series of maps and tables that provide basic watershed information to support a general understanding of existing watershed features, conditions, and restoration opportunities.

Table 1: Watershed Profile

	Acres	Percent of Watershed
Total Watershed Acres	**38,520**	**100%**
Impervious Cover	**1,635**	**4%**
Stream miles	**212 miles**	
Watershed Area Subject to County Permit [1]	**5,428**	**14%**
Impervious Cover Subject to County Permit [1]	**826**	**15%**
Forest Cover[1]	**980**	**18%**
Pervious Cover (e.g., turf, meadow, farm fields)[1]	**3,622**	**67%**

[1] Excluded areas include rural zoning, all MNCPPC parks, Federal and State property, and Federal and State roads

Description of Map 1: Patuxent Watershed Existing Conditions

This map includes the following information based on the County Geographic Information System database:

- Pervious cover – Forest, turf, meadow, and farm field
- Impervious cover
- Rivers and streams
- Existing Best Management Practices (BMPs) providing water quality treatment to the maximum extent practicable (MEP) and completed stream restoration sites
- Table of impervious surface and the existing level of control

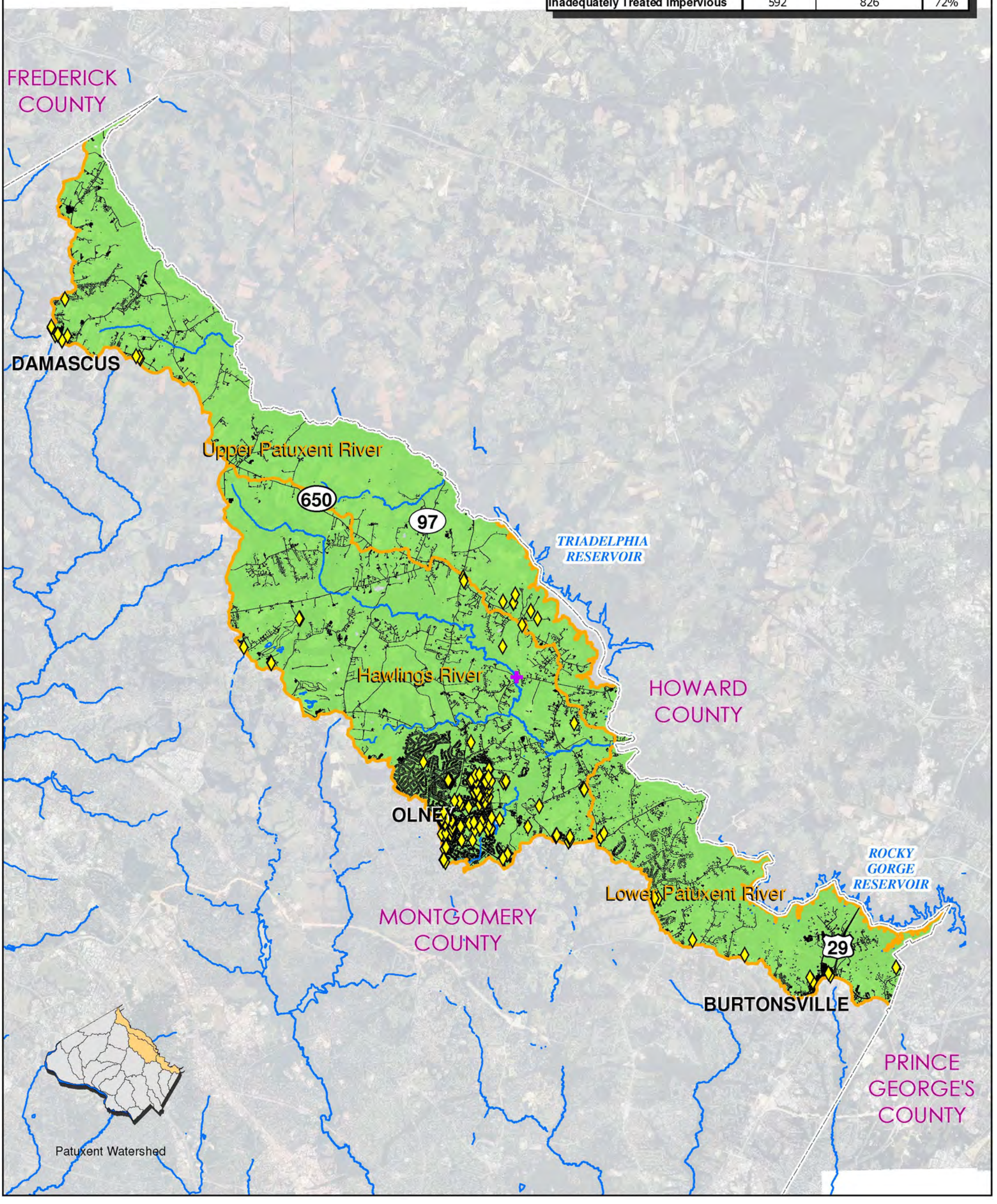
Description of Map 2: Patuxent Watershed Potential Restoration Opportunities

This map includes the location of the following potential restoration opportunities, compiled from previous watershed restoration studies, reviewed for inclusion to the County's Capital Improvement Program fiscal years 2011-2016, and potential future projects:

- Retrofits of existing stormwater management practices
- New proposed stormwater ponds or wetlands
- Potential Low Impact Development (LID) opportunities
- Stream restoration candidate sites
- Summary table of the total number of potential sites

MAP 1. PATUXENT WATERSHED EXISTING CONDITIONS

	Area (acres)	Total Area (acres)	% Total
Total Impervious	1,635	38,520	4%
County Jurisdiction Impervious	826	5,428	15%
Impervious Treated Post-1986	234	826	28%
Inadequately Treated Impervious	592	826	72%



Legend

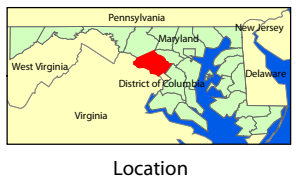
- Existing Well-Performing Best Management Practices (163 sites)[1]
- Completed Stream Restoration Site (1 site)[1]
- Streams
- Patuxent Watershed and Sub-watershed Boundaries within Montgomery County
- Pervious Surfaces
- Impervious Surfaces
- Montgomery County Boundary

DRAFT

N W E S

0 1 2 4 Kilometers

0 0.5 1 2 3 Miles



Location

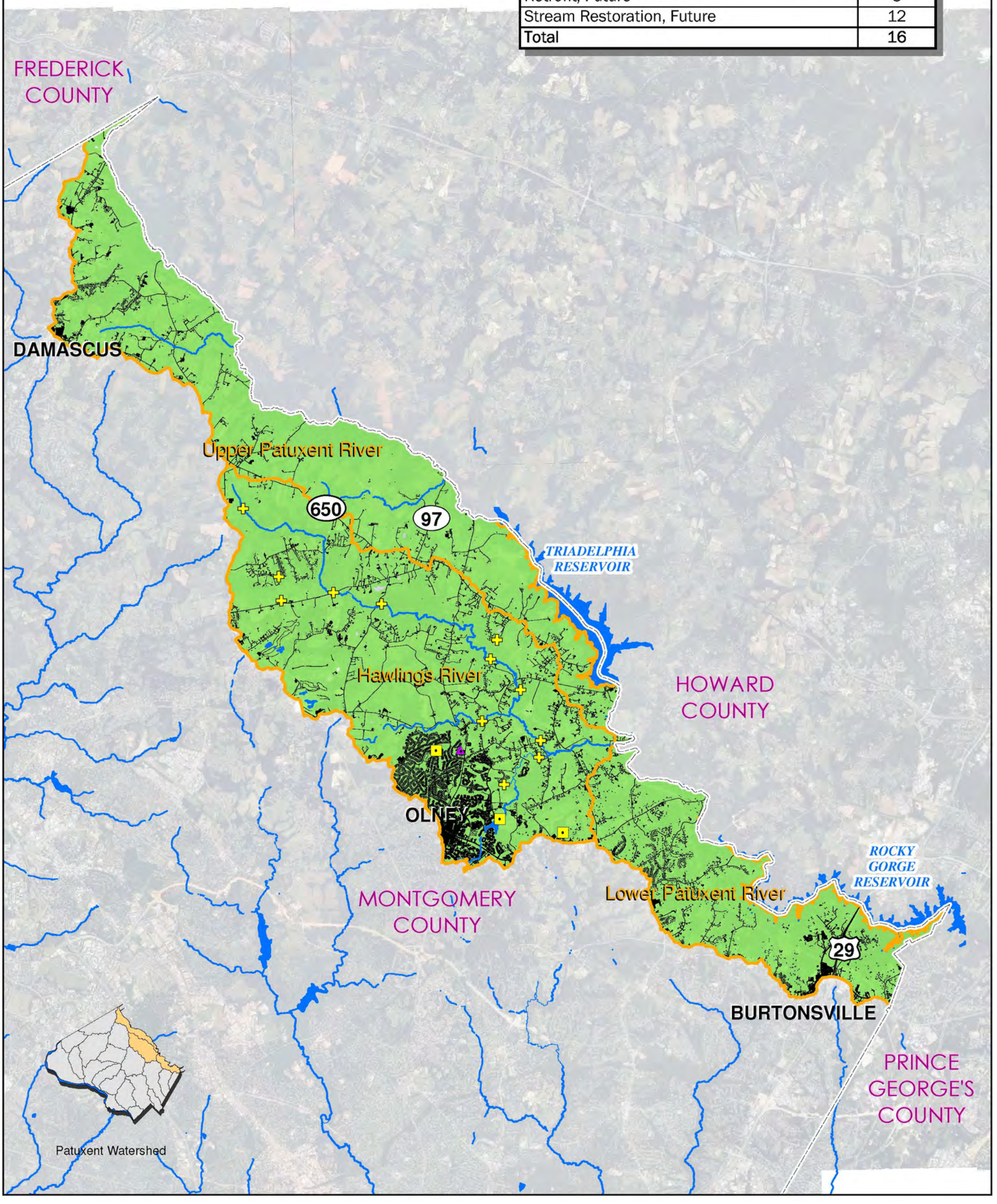
FEBRUARY 2010

Department of Environmental Protection
Montgomery County Maryland

1 Excludes rural zoning, all MNCPPC lands, Federal and State property, and Federal and State roads.

MAP 2. PATUXENT WATERSHED RESTORATION OPPORTUNITIES[1]

Project Type: Fiscal Year	Number
Low Impact Development (LID), 2011 – 2016	1
Retrofit, Future	3
Stream Restoration, Future	12
Total	16



Legend

Restoration Opportunities

- LID, 2011 - 2016
- Retrofit, Future
- Stream Restoration, Future
- Streams
- Patuxent Watershed and Sub-watershed Boundaries within Montgomery County
- Pervious Land Cover (forest, turf, meadow, farmfields)
- Impervious Surfaces
- Montgomery County Boundary

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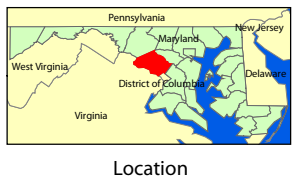
N W E S

0 1 2 4 Kilometers

0 0.5 1 2 3 Miles



Location

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