Acknowledgements

The Little Hunting Creek Watershed Management Plan was developed with the assistance of the Little Hunting Creek Steering Committee. We wish to thank the following individuals and organizations for contributing their time and knowledge in developing this plan:

Casey Arnold, Arnold Construction

Glenda Booth, Fairfax County Wetlands Board

Alex Echols, Wessynton Community

Whit Field, Northern Virginia Conservation Trust

Harry Glasgow, Friends of Huntley Meadows

Joan Gros, Mount Vernon Lee Chamber of Commerce

Chris Lamond (Alternate), Huntley Meadows Park **Betsy**

Martin (Alternate), Friends of Little Hunting Creek **Jeff**

McKay, Lee District Supervisor's Office

John Muse, Virginia Department of Transportation

Paul Phelps, Mount Vernon Council of Civic Associations

James Rees, Mount Vernon Ladies Association

Gary Roisum, Huntley Meadows Park

Paul Siegel, Friends of Little Hunting Creek

Bob Slusser (Alternate), Southeast Fairfax Development Corporation

Brent Steury, National Park Service, George Washington Parkway

Becky Witsman, Southeast Fairfax Development Corporation

Special thanks to the following past members of the Little Hunting Creek Steering Committee:

Michael Aho, Lee District Supervisor's Office

Heather Germaine, National Park Service, George Washington Parkway

Katie Goldberg, Northern Virginia Conservation Trust

Christine Tollefson, Lee District Supervisor's Office

Barbara Wood, Thomas Jefferson School for Science and Technology

The Little Hunting Creek Watershed Management Plan was initiated by the Fairfax County Stormwater Planning Division and the Project Team consists of:

Fairfax County Staff

Carl E. Bouchard, P.E., Director, Stormwater Planning Division

Fred Rose, P.E., Branch Chief, Watershed Planning and Assessment Branch

Paul Shirey, P.E., Project Manager, Watershed Planning and Assessment Branch

Woolpert LLP

Shelly Frie, Project Manager

Jack Wall, Project Engineer

Jeff Wright, Project Engineer

Jeffrey Swallow, GIS Analyst

Erin Nimmo, Project Engineer

Mindy Davis, Manuscript Designer

Erin Elliott, Manuscript Editor

Institute for Environmental Negotiation, Department of Urban and Environmental Planning of the School of Architecture at the University of Virginia

Karen Firehock, Public Involvement Coordinator

Matt Robbie, Graduate Research Associate

Special thanks to the following past members of the Little Hunting Creek project team:

Seshadri Iyer, Curtis Moy Ostrodka and Bradley Vanderwarker

Table of Contents

Chapter 3
Subwatershed Condition

Chapter 4
Plan Strategy

Chapter 5
Policy and Land Use Recommendations

List of Tables

List of Figures

List of Photos

List of Maps

Executive Summary

The Little Hunting Creek Watershed Management Plan is a strategic plan developed with input from the community for achieving the following watershed vision:

> "The vision of the Little Hunting Creek Watershed Management Plan is to integrate environmental management, natural resource protection, and community goals to minimize runoff, reduce pollution, and restore the quality of Little Hunting Creek for the community's benefit."

The Little Hunting Creek Watershed Management Plan (the plan) provides an array of strategies for achieving the goals described in the vision. The plan was developed by the watershed stakeholders to help engage and educate all members of the Little Hunting Creek Watershed community. The plan is a guide to:

- Define the goals and objectives to support the plan vision
- Assess the existing condition of the watershed and future impacts due to changes in land use
- Identify key watershed issues and define goals and objectives for addressing these issues
- Provide action strategies that support the objectives and coordinate existing and proposed watershed activities
- Educate and engage the watershed stakeholders to improve the watershed condition

The Little Hunting Creek Watershed Management Plan provides a strategy for mitigating the impacts of development, such as increased runoff and poor water quality. This plan is the first one to be developed as part of a county initiative to create watershed management plans for all Fairfax County watersheds.

Background

The Little Hunting Creek Watershed is located in the Chesapeake Bay Watershed in the southeastern part of Fairfax County, Virginia, and is one of the most developed watersheds in the

county as shown on Map E.1. It is bounded to the west by the Dogue Creek Watershed, to the south and east by the Potomac River, and to the north by the Belle Haven Watershed. The Little Hunting Creek Watershed encompasses 7,067 acres (11.04 square miles) and is located in the coastal plain physiographic province, a region characterized by sandy soil and low-gradient topography.

Much of the land that is located in the Little Hunting Creek Watershed was once owned by General George Washington. In fact, the original name for General Washington's Mount Vernon plantation was the Little Hunting Creek Plantation. Clearing and building on the land started before General George Washington was the principal landholder in the watershed.

The headwaters of Little Hunting Creek are found in Huntley Meadows Park, located at the northwest border of the watershed. The creek flows in a southeasterly direction to its confluence with the Potomac River east of the historic Mount Vernon Estates. The Little Hunting Creek Watershed experiences tidal effects two to three miles upstream of its confluence with the Potomac River.

Purpose

The primary reasons the Little Hunting Creek Watershed Management Plan was developed can be summarized as follows:

1. To restore and protect the county's streams, of which 70% are in fair to very poor condition
2. To meet state and federal water quality standards by identifying strategies to prevent and remove pollution
3. To support Virginia's commitment to the Chesapeake 2000 Agreement to clean the Chesapeake Bay
4. To replace the currently outdated watershed management plan through the use of new technologies
5. To take a comprehensive approach in addressing multiple regulations, commitments, and community needs

With input from the Little Hunting Creek Steering Committee and other members of the community, this watershed management plan addresses these needs and requirements with a strategy for restoring and protecting the watershed.

Watershed Condition

For the purposes of this watershed plan, the Little Hunting Creek Watershed was divided into five subwatersheds: North Little Hunting Creek, South Little Hunting Creek, Paul Spring Branch, North Branch, and the Potomac River. The residential, commercial, and industrial development in the Little Hunting Creek Watershed began in earnest in the late 1940s. Today, the watershed is 82% developed and includes some of the oldest developed areas in Fairfax County. The total impervious area in the watershed is approximately 1,762 acres (25% of the total area).

The predominant existing land use in the watershed is medium-density, single-family residential comprising 33% of the watershed area. The next major land use in the watershed is open space, parks, and recreational areas comprising 17% of the watershed area. For ultimate

future build-out of the watershed, medium-density, single-family residential land use may increase to 55%, and the future watershed imperviousness may increase to 27%.

The county initiated a stream physical assessment for all of its watersheds in August 2002, and the Little Hunting Creek Watershed was assessed as one of the five watersheds with the poorest condition in the county. The stream physical assessment included a habitat assessment, infrastructure inventory, stream characterization, and stream geomorphologic assessment. The stream habitat quality was rated as very poor for 15% of the assessed stream length and poor for 58% of the assessed stream length.

The Fairfax County Health Department monitors stream water quality at two water quality sampling sites located in the watershed. The Fairfax County 2001 Stream Water Quality Report concluded that the overall water quality of Little Hunting Creek Watershed is considered poor for fecal coliform bacteria and good for the chemical and physical parameters of the streams except for the low dissolved oxygen level found in North Branch.

The Fairfax County Stream Protection Strategy (SPS) Baseline Study from January 2001 evaluated the quality of streams throughout the county. Little Hunting Creek and its tributaries, North Branch and Paul Spring Branch, received very poor composite site condition ratings. These ratings were based on environmental parameters such as an index of biotic integrity, stream physical assessment, habitat assessment, fish taxa richness, and percent imperviousness.

Little Hunting Creek is included in a segment of the Potomac River listed as an impaired waterbody in the 2002 303(d) Priority List prepared by the Virginia Department of Environmental Quality (DEQ). The impairment classification is due to a health advisory issued by the Virginia Department of Health for fish consumption based on high levels of polychlorinated biphenyls (PCBs) found in fish tissue samples and high fecal coliform bacteria counts in the water samples. Sediment samples taken from the tidal portion of Little Hunting Creek in 2000 contained the chemical chlordane above the limit that can threaten aquatic life. The Virginia DEQ stated that aquatic life is threatened by the presence of excessive algae in the tidal waters of Little Hunting Creek and it has been designated by the Virginia DEQ as nutrient-enriched waters. In addition to the causes of waterbody impairment described above, the Virginia DEQ Draft 2004 305(b)/303(d) Water Quality Assessment Integrated Report stated that there were enough samples that exceeded the fecal coliform bacteria criterion to cause the creek to not support the state's recreational use goal.

Plan Goals, Objectives, and Actions

The goals of the Little Hunting Creek Watershed Management Plan were derived from the issues identified by the community and the county's consultants based on their analysis of the watershed condition.

Goal A: Reduce stormwater impacts on the Little Hunting Creek Watershed from impervious areas to help restore and protect the streams.

The increased volume of polluted stormwater runoff from impervious surfaces is the primary cause of most of the problems in the watershed. The watershed has 25% imperviousness with

approximately 6,245 acres of developed land not controlled by any stormwater management facilities such as dry detention ponds.

Goal B: Preserve, maintain, and improve watershed habitats to support native flora and fauna.

The habitat quality is rated poor for the majority of the streams in the Little Hunting Creek watershed, with approximately 10 miles of degraded buffers and eroded stream banks. The creek and streams have manmade alterations such as paved and straightened channels and hardened shorelines that decrease the available habitat in the watershed. The increased quantity and poor quality of the stormwater runoff also impacts the habitat by eroding the stream bed and banks and polluting the water. The environment section of the county's Policy Plan states under Objective 2, "…Protect and restore the ecological integrity of streams in Fairfax County." The actions under this goal will strive to maintain the existing quality habitat areas in good condition and improve those habitat areas in poor condition.

Goal C: Preserve, maintain, and improve the water quality of the streams to benefit humans and aquatic life.

The existing water quality of the creek and streams is poor based on the information from the county's stream quality monitoring and Virginia DEQ's monitoring data regarding fecal coliform bacteria, nutrients such as nitrogen and phosphorous, chlordane, and PCBs. Sedimentation caused by stream bed and bank erosion and land disturbances in the watershed have caused silting of streams and the creek. There is a direct relationship between the upstream volume of runoff and velocities and the amount of sediment deposited downstream. To reduce the amount of degradation of the streams and sediments transported downstream, upstream runoff volumes and velocities must be reduced. This goal is consistent with the environment section of the county's Policy Plan as stated in Objective 2, "Prevent and reduce pollution of surface and groundwater resources."

Goal D: Provide a means for increasing community involvement for long-term watershed stewardship.

Education and involvement in watershed issues will help drive the actions for all of the goals of this plan. The community has been involved in the process to develop the Little Hunting Creek Watershed Management Plan, and continued involvement will help in improving the state of the watershed. The strategy to achieve this goal will include actions such as distributing educational materials to the public, providing technical assistance to the community, and assisting in conducting outreach to neighborhood groups and associations.

Objectives and actions were developed to help achieve the plan goals and include recommendations to change county policy and recommendations for structural and non-structural capital improvements. The 25-year funding requirements for all of the recommended actions is estimated at $30.4 million and the commitment needed from county staff for implementing the plan actions is estimated at 2.81 staff year equivalents. $26.6 million of this estimate is attributed to project implementation costs and $3.8 million is for policy-related recommendations.

Benefits of Plan Actions

Hydrologic, hydraulic, and water quality models were created for the Little Hunting Creek Watershed in order to quantify the benefit of the plan's proposed alternatives. As a separate indicator, the Army Corps of Engineers stream attributes rating method was also used to compare existing stream conditions with anticipated improvements to the watershed as a result of complete plan implementation. The models and stream rating system helped to identify the following benefits to the Little Hunting Creek Watershed with implementation of the proposed actions:

1) Reductions in peak stormwater discharges, resulting in:
   - Reductions in road, house, and yard flooding
   - Reductions in stream velocities and bank erosion
2) Reductions in pollutant loads, resulting in improved stream water quality
3) Improved stream habitat

Future ultimate development conditions without any proposed BMP alternatives (future), and future ultimate development conditions with the proposed BMP alternatives (future proposed), were modeled to evaluate the effect of the proposed alternatives in the watershed and to allow formalization of cause and effect relationships.

Reductions in stormwater peak discharges based on complete implementation of the plan are summarized in Table E.1.

Table E.1 Subwatershed Peak Flow Reduction Summary

Subwatershed	Two-year Reduction in Peak Flow (%)	10-year Reduction in Peak Flow (%)
North Little Hunting Creek	-18.0	-13.8
South Little Hunting Creek	-3.2	-2.3
Paul Spring	-23.1	-33.2
North Branch	-14.1	-15.6
Potomac River	N/A	N/A

Reductions in pollutant loads for total suspended solids (TSS), total phosphorous (TP), and total nitrogen (TN) based on complete implementation of the plan are summarized in Table E.2. The overall watershed benefit of the proposed projects in the plan, with respect to the Chesapeake Bay Preservation Ordinance, is a reduction in TP of 9%. This has nearly the same effect as treating the entire watershed as a "redevelopment project," which would generally require a reduction in TP of approximately 10%.

Table E.2 Pollutant Loading Rate Reduction Summary

Subwatershed	% Decrease TSS Loading Rate	% Decrease TP Loading Rate	Decrease T N Loading Rate %
North Little Hunting Creek	14	14	10
South Little Hunting Creek	1	1	1
Paul Spring	20	15	9
North Branch	14	11	7
Potomac River	0	0	0
Little Hunting Creek Total	11	9	6

The Army Corps of Engineers stream attributes rating method[1] was used to compare existing stream conditions with anticipated improvements to the watershed as a result of plan implementation. The following parameters are considered in this rating system:

1) Channel Incision: The degree to which the channel has downcut or is incised in its floodplain
2) Riparian Condition: Riparian corridor width
3) Bank Erosion: The amount of bank erosion
4) Channelization: Whether or not the stream has been channelized
5) In-stream Habitat: The amount and condition of instream habitat

The index values range from 1 (lowest score) to 5 (highest score). By applying the 2003 Stream Physical Assessment habitat-related data to this methodology, the overall existing stream condition index for Little Hunting Creek is 2.86. For comparison, the countywide reach-length weighted stream index is 3.49. Based on complete implementation of the stream and tree buffer restoration projects proposed in the watershed plan, the overall Little Hunting Creek stream index is projected to be 3.51. It is anticipated that the corresponding measurable improvement for Little Hunting Creek would be for the Stream Physical Assessment total habitat rating to shift from the "poor" category to the high range of the "fair" category. It must be emphasized that this rating system only applies to stream habitat conditions. Direct water quality and quantity improvements realized as a result of implementation of other watershed plan recommendations (i.e. excluding the stream and tree buffer restoration projects) are not reflected in this stream habitat rating.

Plan Implementation

The recommended plan actions will be implemented over the 25-year life of the Little Hunting Creek Watershed Management Plan. The implementation schedule was developed with input from the Little Hunting Creek Steering Committee using a prioritization of the actions to evaluate how well they met the plan goals. The prioritization criteria that were used included the peak flow reduction, habitat benefit, water quality improvement, promotion of watershed stewardship, and cost of the capital improvement program (CIP) actions. Some of the actions were scheduled by the Steering Committee in the implementation plan according to other important factors in addition to the prioritization rating.

The following tracks have been identified for the implementation of plan recommendations:

1. Structural and non-structural projects:
   - County-initiated projects via the CIP
   - Developer-initiated projects as waiver conditions or via the zoning approval process through proffers or development conditions
   - Volunteer group implementation
2. Policy recommendations
3. Land use recommendations

The capital improvement program projects implementation plan is provided in Table E.3 and the policy actions are summarized in Table E.4. Policy actions will need to be further evaluated in light of their countywide implications. The current planned approach for processing the policy recommendations from the plan is to integrate these recommendations with similar recommendations developed with the Popes Head Creek, Cameron Run, Cub Run, and Difficult Run Watershed Management Plans over the next few years. Land use recommendations are grouped with the policy actions and will be further evaluated as part of the county's comprehensive plan area plan review (APR) process. Land use recommendations that are adopted through the APR process would become part of the comprehensive plan. Map E.1 shows the proposed CIP projects that have specific locations. The projects and policy actions that are watershed wide are not shown on this map.

Table E.3 Capital Improvement Program Projects Implementation[2]

Plan Map No.	Project Description	Fiscal Year Start	Estimated Cost
NB11	New BMP at 7603 Elba Road	2005	$240,000
PSB25	New BMP at 3223 Groveton Street	2005	$240,000
PSB1	New Commercial LID at 6700 Richmond Highway	2005	$610,000
PSB8	Retrofit BMP at 1909 Windmill Lane	2005	$60,000
N/A	Community Watershed Support Services Project:	2005	$1,000,000
N/A	Dumpsite Removal Project: D1.1	2005	$200,000
N/A	North Little Hunting Creek Residential Rain Barrel and Rain Garden: A4.1	2005	$40,000
N/A	Paul Spring Branch Residential Rain Barrel and Rain Garden: A4.1	2005	$60,000
N/A	North Branch Rain Barrel and Rain Garden: A4.1	2005	$70,000
PSB32	New BMP at 6950 Richmond Highway	2006	$600,000
NLHC1	New BMP at 7201 Richmond Highway	2006	$430,000
NLHC20	New BMP at 2709 Popkins Lane	2006	$260,000
PSB24	New BMP at 6625 Lenclair Street	2006	$240,000
NLHC23	New BMP at Mount Vernon Square Townhomes	2006	$110,000
PSB31	New BMP at 2223 Beacon Hill Road	2006	$140,000
NLHC16	New BMP at 2313 Darius Lane	2006	$130,000
NLHC21	New School LID at the Hybla Valley Elementary School and the Bryant High School	2006	$250,000

Plan Map No.	Project Description	Fiscal Year Start	Estimated Cost
NLHC17	New BMP at 3431 Lockheed Boulevard	2006	$110,000
PSB2	New Comm./Instit. LID at Various Churches and the Bucknell Elementary School	2006	$520,000
N/A	Public Education Project: B3.5, C2.5, D1.2, D2.2 , D2.3	2006	$1,440,000
N/A	Wetlands Survey Project: B3.1	2007	$320,000
N/A	PCB Contamination Study Project: C3.1	2007	$30,000
NB1	New School LID at the Whitman Middle School, the Hollin Meadows Elementary, and the Stratford Landing Elementary School	2007	$580,000
NB14	New BMP at 8200 West Boulevard Drive, and 1138, 1200, 1204, and 1208 Cedar Dale Lane	2007	$160,000
NLHC9	New Commercial LID at Mount Vernon Plaza, Hybla Plaza, the Multiplex Cinema, and the Audubon Estates Valley Mobile Home Park	2007	$590,000
N/A	Fecal Coliform Source Study Project: C2.1	2007	$320,000
PSB29	New BMP at 1600 Paul Spring Road	2007	$260,000
N/A	Conservation Acquisition Project: B2.3, B3.3	2007	$200,000
N/A	Sediment Monitoring/Stream Physical Assessment/ Monitoring Project: B2.2, C2.3	2007	$200,000
N/A	Small Watershed Grant Program: D2.1	2007	$460,000
N/A	Buffer Monitoring Project: B1.3	2007	$345,000
N/A	Street Sweeping Program: C1.2	2007	$460,000
NB12	New BMP at 2500 Woodlawn Terrace	2008	$200,000
PSB26	New BMP at 2501 Beacon Hill Road	2008	$150,000
PSB4	Retrofit BMP at 7628 Essex Manor Place	2008	$110,000
PSB30	New BMP at 7509 Fort Hunt Road	2008	$210,000
NLHC24	New BMP at the Mount Vernon Square Apartments at 2722 Arlington Drive	2009	$170,000
PSB7	Retrofit BMP at 7116 Fort Hunt Road	2009	$110,000
PSB15	Stream Restoration at Paul Spring Branch	2010	$2,620,000
N/A	Dredging Feasibility Study Project: C1.1	2010	$510,000
NB13	New BMP at 2500 Parkers Lane	2010	$150,000
NB2	Retrofit BMP at 8033 Holland Road	2010	$250,000
NLHC11	Buffer Restoration at North Little Hunting Creek	2010	$400,000
NLHC14	Stream Restoration at North Little Hunting Creek	2010	$350,000
NLHC19	New BMP at the Grove at Huntley Meadows	2010	$210,000
NLHC4	Retrofit BMP at 3115 Sherwood Hall Lane	2010	$30,000
NLHC6	Retrofit BMP at 3742 Roxbury Lane	2010	$70,000
PR2	Wetland Restoration at Various Locations	2010	$200,000
PR3	New School LID at the Waynewood Elementary School	2015	$80,000
PSB14	Buffer Restoration at Paul Spring Branch	2015	$30,000

Plan Map No.	Project Description	Fiscal Year Start	Estimated Cost
PSB27	New BMP at 6925 University Drive	2015	$100,000
PSB28	New BMP at 2424 Ross Street	2015	$70,000
PSB9	New Wetland BMP at Paul Spring Branch	2015	$230,000
SLHC11	Wetland Restoration at Martin Luther King Jr.	2015	$390,000
SLHC17	Wetland Restoration at the Main Stem of Little Hunting Creek	2015	$230,000
SLHC3	New School LID at the Fort Hunt Elementary School	2015	$270,000
SLHC6	Buffer Restoration at South Little Hunting Creek	2015	$20,000
SLHC7	Buffer Restoration at South Little Hunting Creek	2015	$40,000
NB3	Retrofit BMP at 8306 Rampart Court	2015	$60,000
NB7	Stream Restoration at North Branch	2015	$390,000
NB9	Retrofit BMP at 8225 Stacey Road	2015	$90,000
NLHC12	Stream Restoration at North Little Hunting Creek	2015	$800,000
NLHC15	Stream/Buffer Restoration at North Little Hunting Creek	2020	$820,000
NLHC2	Retrofit BMP at 7770 Richmond Highway	2020	$90,000
NLHC5	Retrofit BMP at the Village at Gum Springs Townhomes	2020	$110,000
PSB10	New Wetland BMP Paul Spring Branch at Fort Hunt Road	2020	$200,000
PSB3	Retrofit BMP at 7008 Bryant Towne Court	2020	$50,000
PSB5	Retrofit BMP at 2923 Preston Avenue	2020	$60,000
PSB6	Retrofit BMP at 6733 Richmond Highway	2020	$70,000
SLHC5	Stream Restoration at South Little Hunting Creek	2020	$560,000
SLHC9	Stream Restoration at South Little Hunting Creek	2020	$230,000
NB10	Retrofit BMP at Noral Place	2020	$30,000
NB4	Retrofit BMP at 8306 Marble Dale Court	2020	$80,000
NB5	Retrofit BMP at 8313 Riverton Lane	2020	$90,000
B8	Stream Restoration at North Branch	2020	$110,000
NLHC13	Stream Restoration at North Little Hunting Creek	2025	$150,000
NLHC3	Retrofit BMP at 7836 Fordson Road	2025	$60,000
PSB12	Buffer Restoration at Paul Spring Branch	2025	$20,000
PSB13	Stream Restoration at Paul Spring Branch	2025	$1,370,000
PSB16	Stream Restoration at Paul Spring Branch	2025	$100,000
PSB17	Stream Restoration at Paul Spring Branch	2025	$40,000
PSB18	Stream Restoration at Paul Spring Branch	2025	$100,000
PSB19	Stream Restoration at Paul Spring Branch	2025	$100,000
PSB20	Stream Restoration at Paul Spring Branch	2025	$100,000
PSB23	Retrofit BMP at 2002 Windmill Lane	2025	$80,000
SLHC16	Retrofit BMP at Woodland Heights	2025	$60,000
SLHC4	Stream Restoration at South Little Hunting Creek	2025	$200,000
SLHC8	Buffer Restoration at South Little Hunting Creek	2025	$150,000
N/A	Inspection Enhancement Project: A3.1[3]	—	$200,000

Plan Map No.	Project Description	Fiscal Year Start	Estimated Cost
N/A	Enforcement Enhancement Project: C2.4, D1.3[4]	—	$1,920,000
N/A	Stormwater Infrastructure Condition Assessment A3.11[3]	—	$216,000

Table E.4 Policy Actions

Recommended Action	Action No.
Reduce existing peak runoff from redevelopment	A2.1
Countywide maintenance agreement authority	A3.2
Evaluate CBPA waivers	B1.4
Promote use of natural shorelines	B3.4
Adopt comprehensive LID calculation methodology	A3.4
Evaluate recommended BMP list	A3.3
No waivers for 18% imperviousness	A3.9
County facilities natural landscaping and green buildings	A3.10
Wetland mitigation for impacts	B3.6
Reduce existing peak runoff from roads	A5.1
Require buffer vegetation restoration for development	B1.5
Zoning incentives	A1.2
BMP siting on individual residential lots	A3.5
Expedited review process	A1.1
Strengthen pooper scooper ordinance	C2.6
Lawn management company requirement	C2.7

Monitoring Plan

In order for the Little Hunting Creek Watershed Management Plan to be implemented effectively, it will need to be updated and revised to address the dynamic nature of the watershed conditions and land use. The monitoring plan was developed to provide monitoring actions and targets to determine the effectiveness of the implemented plan actions. The information collected for the monitoring plan will help the county and stakeholders adjust the plan as necessary to ensure the plan goals and objectives for the Little Hunting Creek Watershed are achieved.

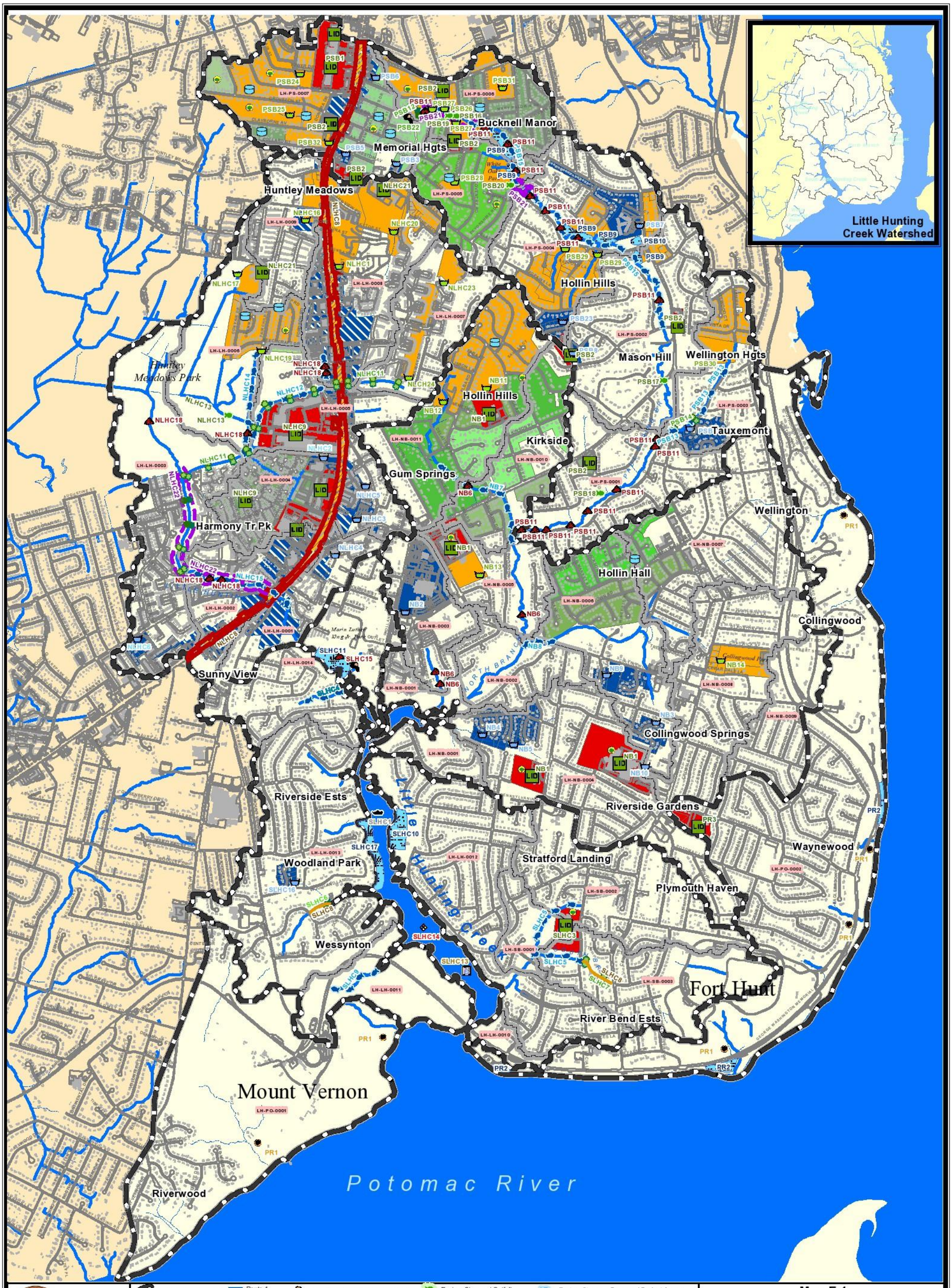
(Footnotes)

1 Stream Attributes Crediting Methodology: Impact and Compensation Reaches. Norfolk District Corps of Engineers Regulatory Branch.

2 The implementation dates are target time frames subject to county funding approval and updates to the watershed plan.

3 Actions A3.1 and A3.11, described in Chapter 5 as "policy" recommendations, would be implemented as capital projects. Since the projects are subject to the policy review process, no fixed start date can be proposed at this time.

4 Action D1.3, described in Chapter 5 as a "policy" recommendation, would be implemented as a capital project. Since the project is subject to the policy review process, no fixed start date can be proposed at this time.


Little Hunting Creek Watershed
Bucknell Manor
Memorial Hgts
Huntley Meadows
Hollin Hills
Mason Hill
Wellington Hgts
Tauxemont
Kirkside
Gum Springs
Harmony Tr Pk
Wellington
Hollin Hall
Collingwood
Sunny View
Collingwood Springs
Riverside Ests
Riverside Gardens
Waynewood
Woodland Park
Stratford Landing
Plymouth Haven
Wessynton
Fort Hunt
River Bend Ests
Mount Vernon
Riverwood
Potomac River
Little Hunting Creek
Huntley Meadows Park
Subwatershed Boundary
Buildings
Roads
Creeks/Streams
Wetlands
Route 1 Redevelopment
BMP Retrofit
New BMP
Rain Barrel
Rain Garden
Investigate Possible Illicit Discharge
Assess Stream
Sample Water
Cleanup Trash/Dumpsite
Low Impact Development Strategies
Restore Stream at Outfall
Remediate Polluted Sediments
Survey Bottom and Dredge
Acquire Conservation Easement
Place Grouted Riprap
Restore Stream
Restore Buffer
Reduce Runoff from Road
Create/Restore Wetlands
Proposed Project Areas
BMP Retrofit Area
LID Residential Area
LID Commercial or Institutional Area
New BMP Area
Prepared for Fairfax County by Woolpert LLP
Map E.1
Little Hunting Creek Watershed
Proposed Alternatives and Coverage Areas