

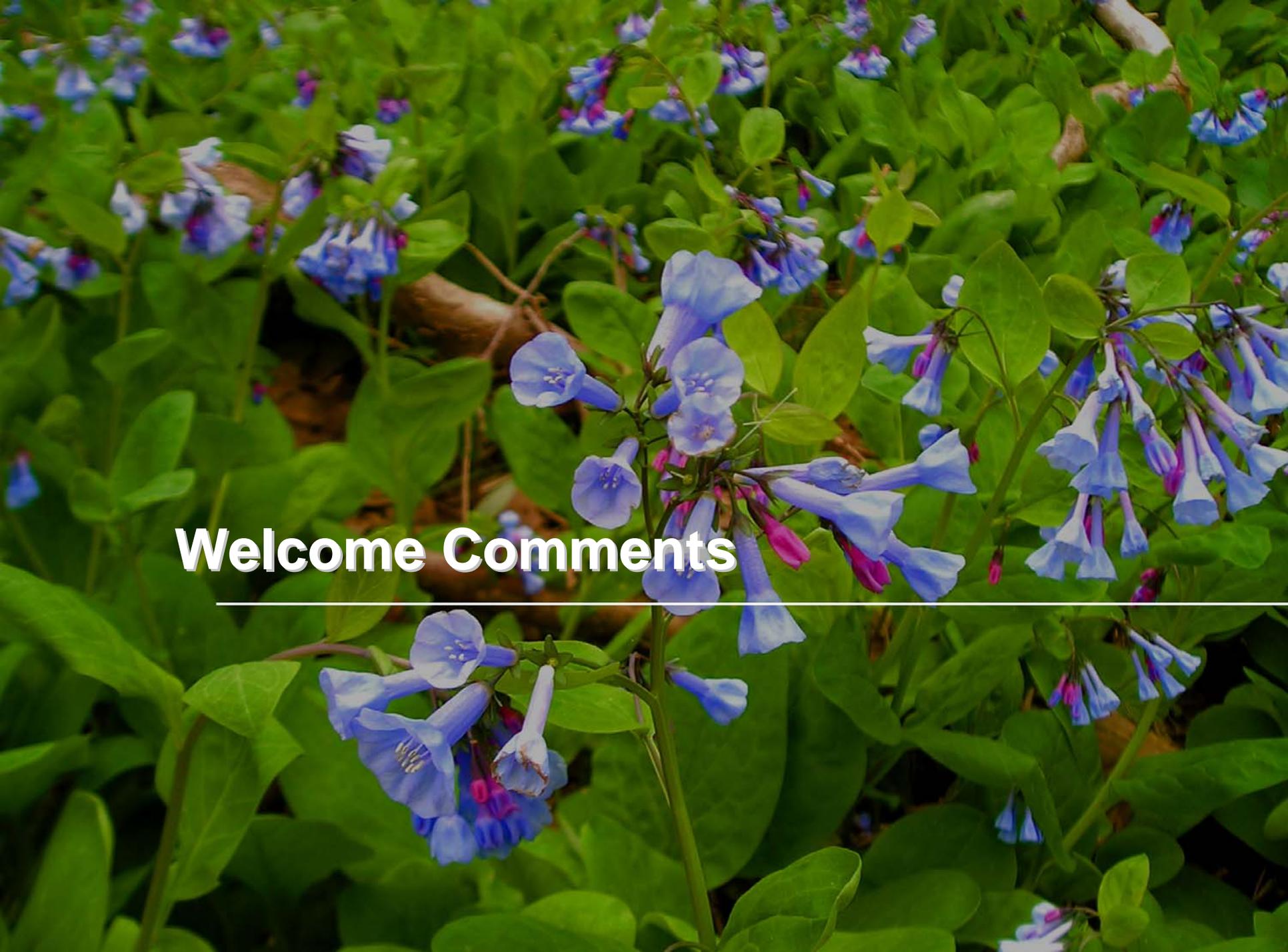
Nichol Run Pond Branch Watershed Management Plan

Introductory & Issues Scoping Forum
January 22, 2009

**Fairfax County Department of Public Works
and Environmental Services**

Presented by Watershed Planning & Assessment Branch,
Stormwater Management



A close-up photograph of a dense field of blue and purple flowers, likely a species of Salpiglossis, with vibrant green foliage. The flowers are trumpet-shaped and arranged in clusters. The background is filled with more of the same plants, creating a lush, textured appearance.

Welcome Comments

Agenda

- **Watershed Primer (10 min.)**
Joe Sanchirico, Fairfax County
- **Draft Watershed Workbook Summary (20 min.)**
Erika Tokarz, F.X. Browne, Inc.
- **Public Involvement Process (5 min.)**
Juliana Birkhoff, Resolve
- **Open House (1 hr.)**
 - Break out into 2 groups of the watershed
 - Identify issues, provide comments & concerns

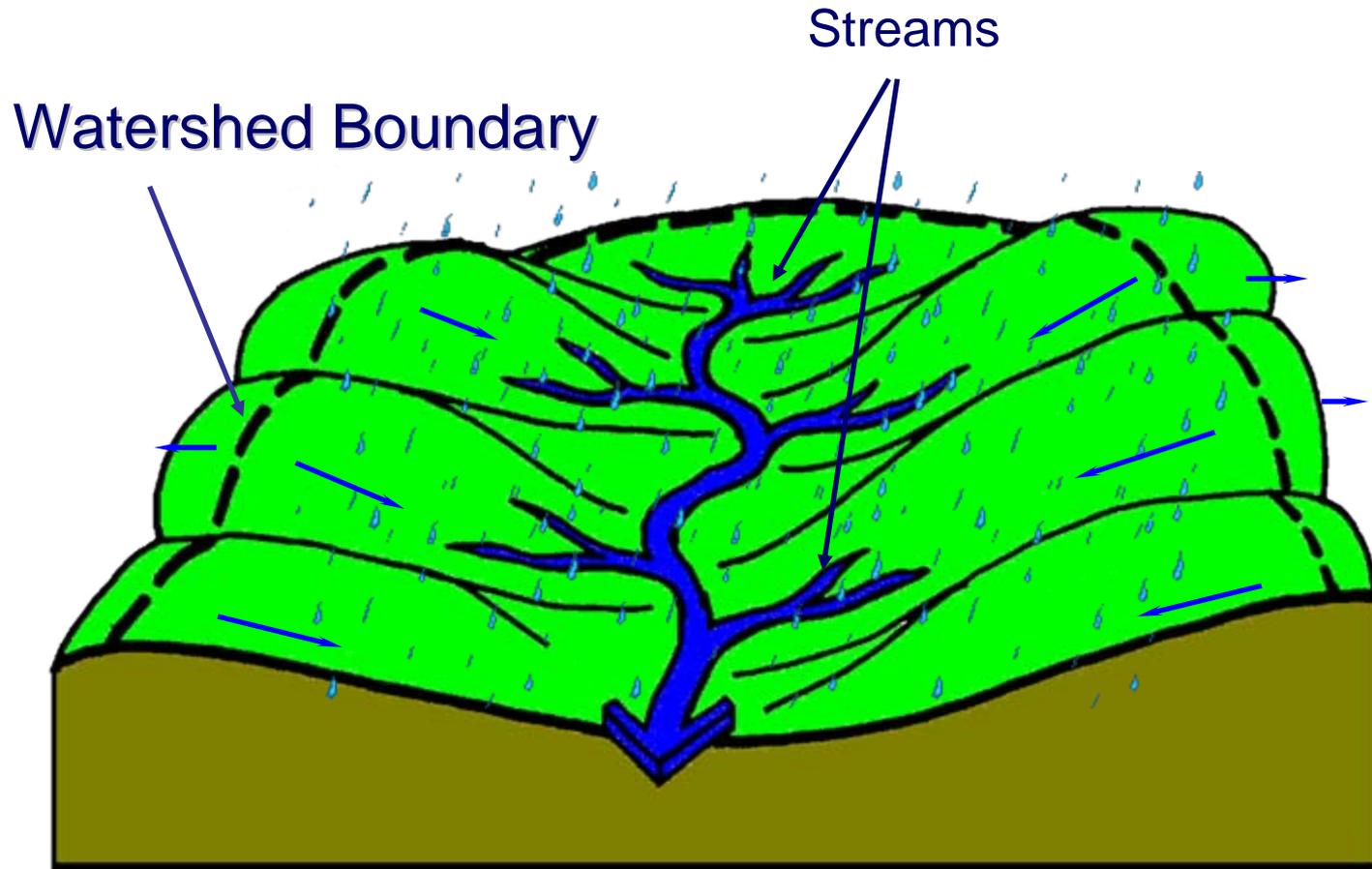
A close-up photograph of a dense field of blue and purple flowers, likely a species of Salpiglossis, with vibrant green foliage. The flowers are bell-shaped and hang from thin stems. The background is filled with more of the same plants, creating a lush, textured appearance.

Watershed Primer

Joe Sanchirico, Fairfax County



What is a Watershed?

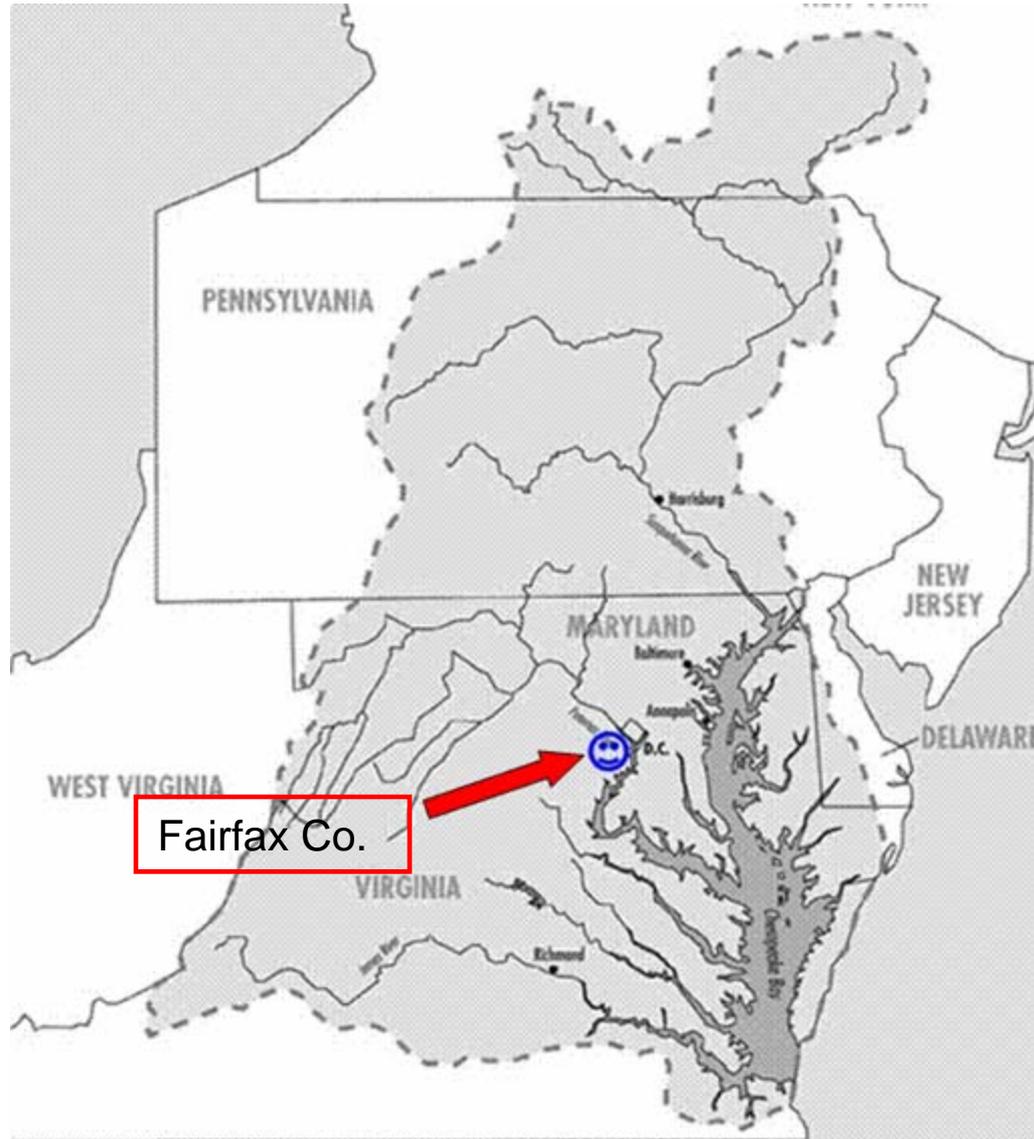


What is a Watershed?



<http://www.epa.gov/owow/watershed/whatis.html>

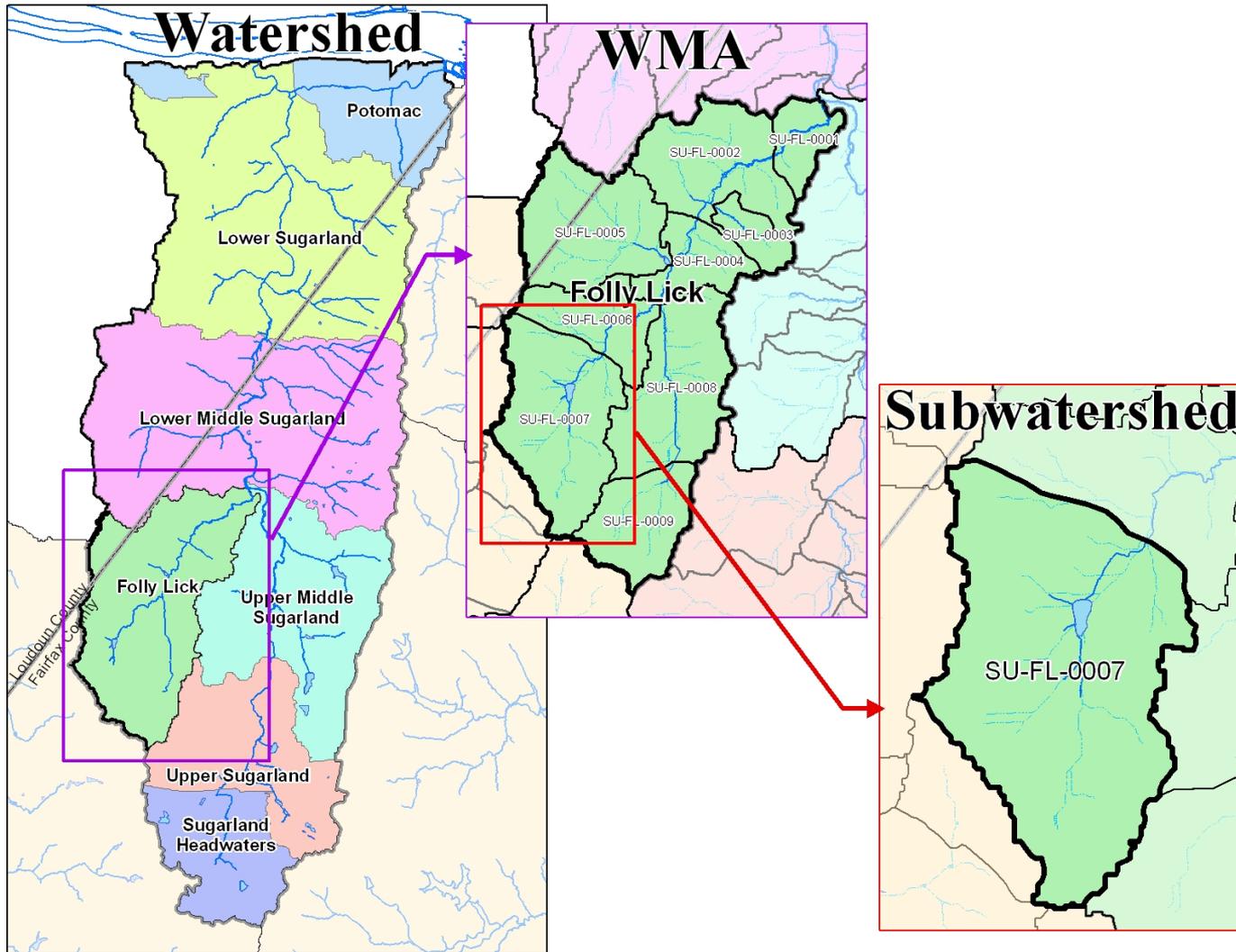
Chesapeake Bay Watershed



Fairfax County Watersheds



Watershed Planning Study Units



Stormwater Management

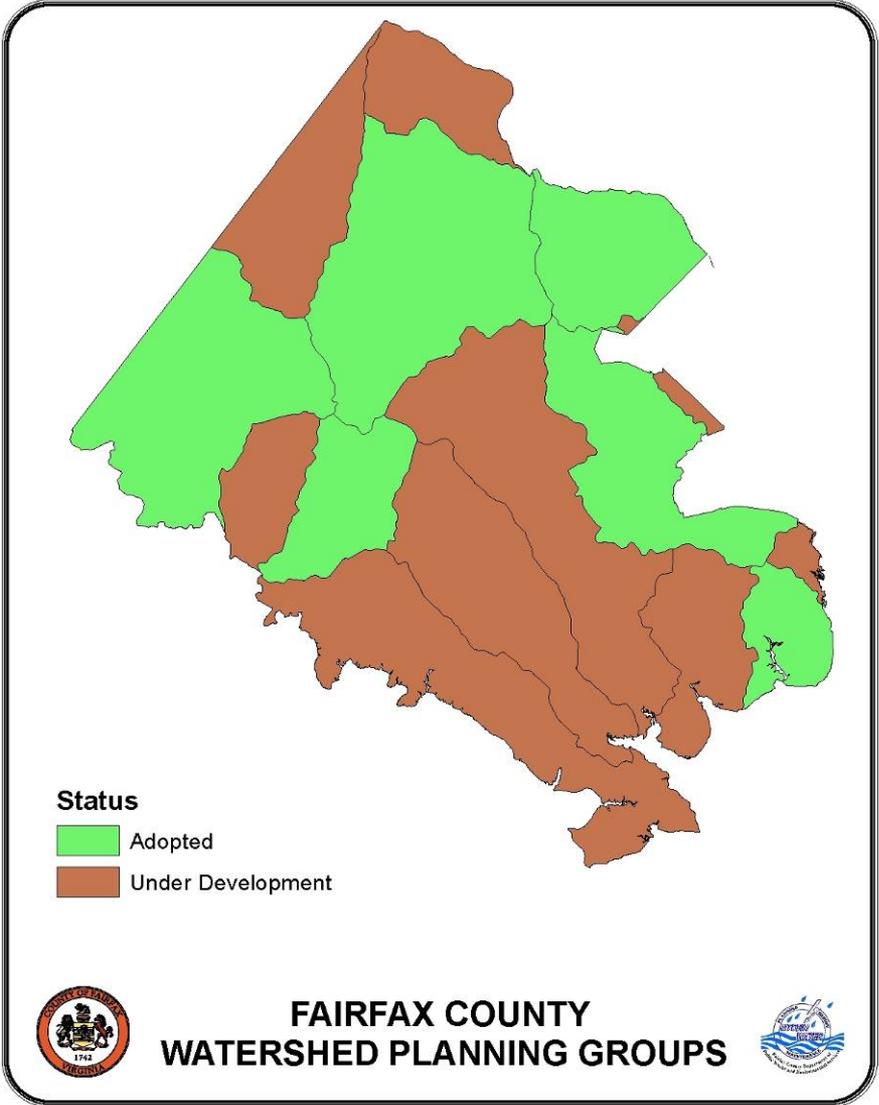
The process of controlling **stormwater runoff** that drains from rooftops, driveways, roads and other hard surfaces that do not allow water to permeate into the ground.



Stormwater Management



Watershed Planning





The Watershed Planning Process

Evaluate data to determine the state of the watersheds

Identify **issues** that the plan will address

Establish a **vision** for the watershed and goals that improve, enhance and protect watersheds

Develop specific **actions** to achieve the goals

Create a framework and timeline for **implementation**

The Watershed Planning Process

- Plan Development
 - Review of previous studies and data compilation
 - Watershed characterization (workbook)
 - Issues Scoping Forum
 - Project Selection
- Draft Plan
 - Draft Plan Forum
- Final Plan
- Adoption by BOS





Watershed Management

- Retrofit existing ponds
- Create new Best Management Practices (BMPs)
- Implement Low Impact Development (LID) Techniques
- Plant stream buffers
- Stabilize or restore streams

Why create watershed plans?

Healthy watersheds, healthier communities



A close-up photograph of a dense field of blue and purple flowers, likely Salpiglossis, with vibrant green foliage. The flowers are bell-shaped and hang from thin stems. The background is filled with more of the same plants, creating a lush, textured appearance.

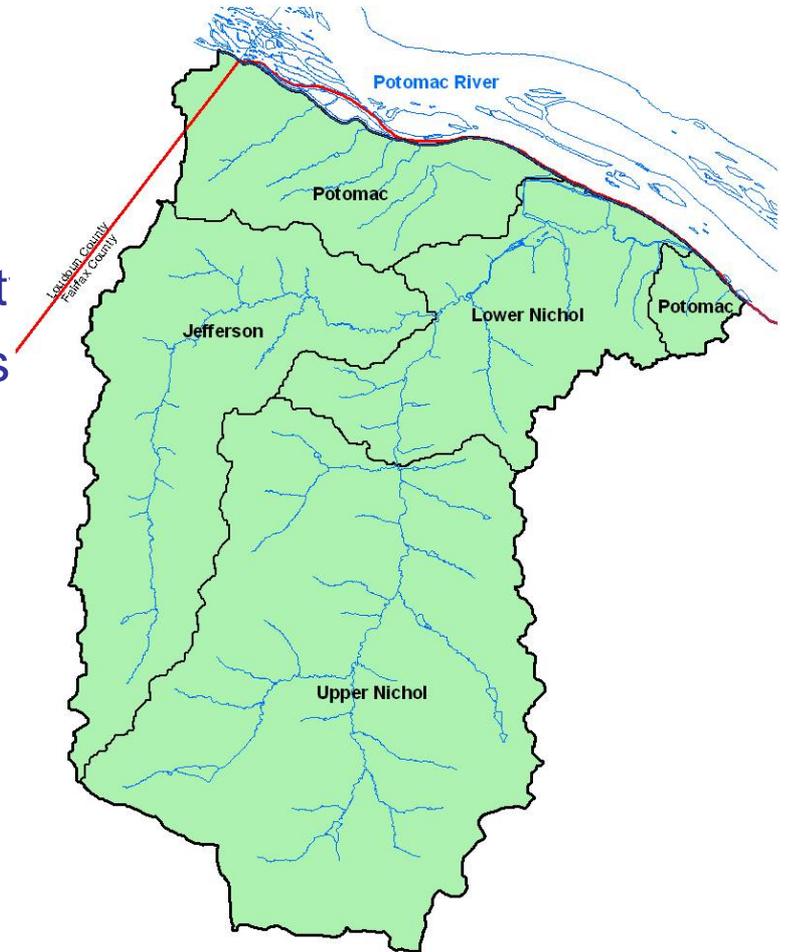
Watershed Workbook

Erika Tokarz, F.X. Browne, Inc.



Nichol Run Watershed

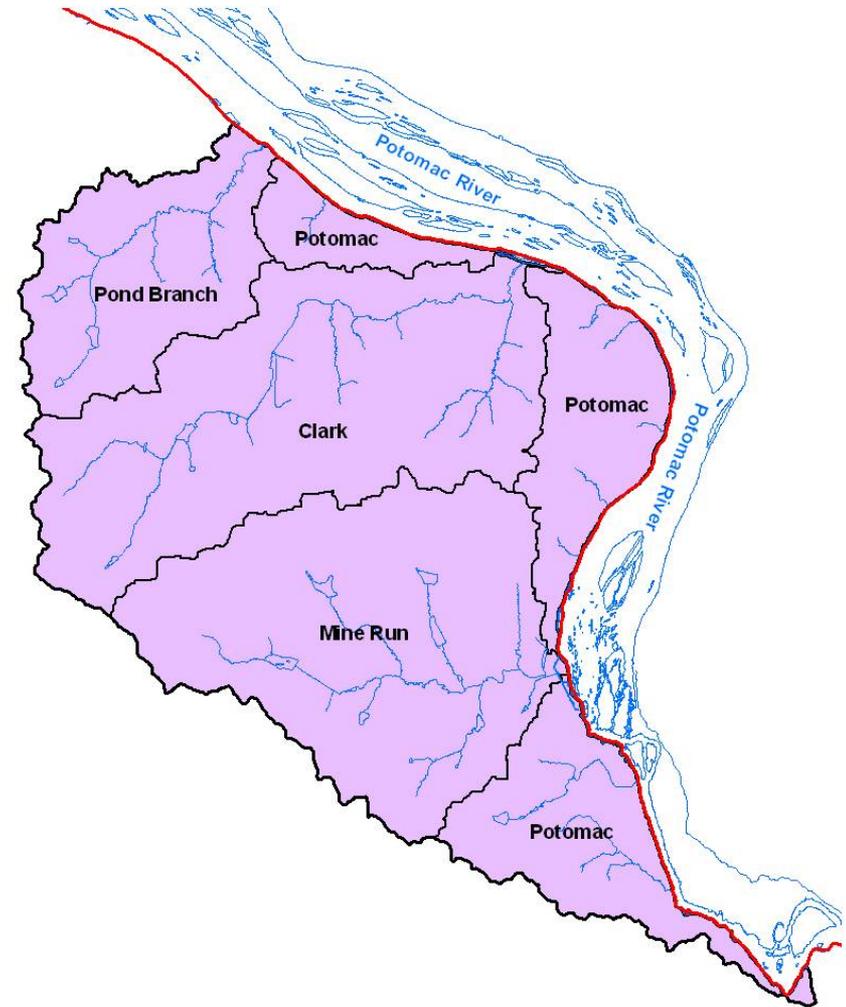
- 8.2 square miles, with 0.04 square miles in Loudoun Count
- 31.8 miles of perennial streams
- Comprised of four WMAs:
 - Jefferson
 - Lower Nichol
 - Potomac (2 pieces)
 - Upper Nichol





Pond Branch Watershed

- 8.5 square miles
- 23.8 miles of perennial stream
- Comprised of four WMAs:
 - Clark Branch
 - Mine Run
 - Pond Branch
 - Potomac (3 pieces)





Watershed Workbook Structure

- Chapter 1 – Introduction
- Chapter 2 – Watershed Study Methodology
- Chapter 3 – Nichol Run Watershed
- Chapter 4 – Pond Branch Watershed
- Chapter 5 – Glossary of Terms
- *Future Addition – Restoration Strategies*

Chapter 1 – Introduction

- Background, Goals & Objectives
- Watershed Workbook Organization
- Watershed History and Condition
 - General Watershed Characteristics
 - Watershed History and Population Growth
 - Existing and Future Land Use
 - Aquatic Environment
 - Terrestrial Environment
 - Resource Protection Areas
 - Stormwater Management

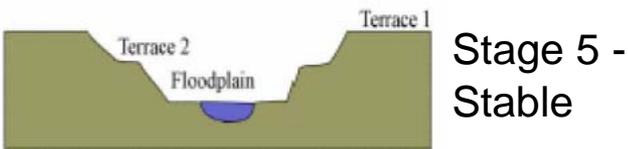
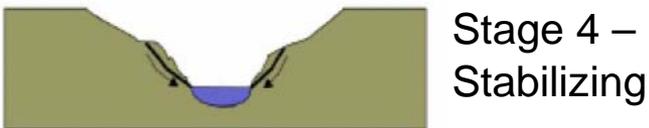
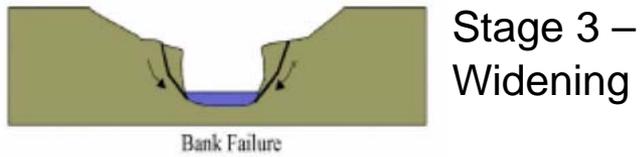


Chapter 2 – Watershed Study Methodology

- Watershed Management Areas and Subwatersheds
- Existing and Future Land Use
- Field Reconnaissance and Stream Physical Assessment
- Watershed Characterization
- Modeling
- Subwatershed Ranking

Stream Physical Assessment

Channel Evolution Model

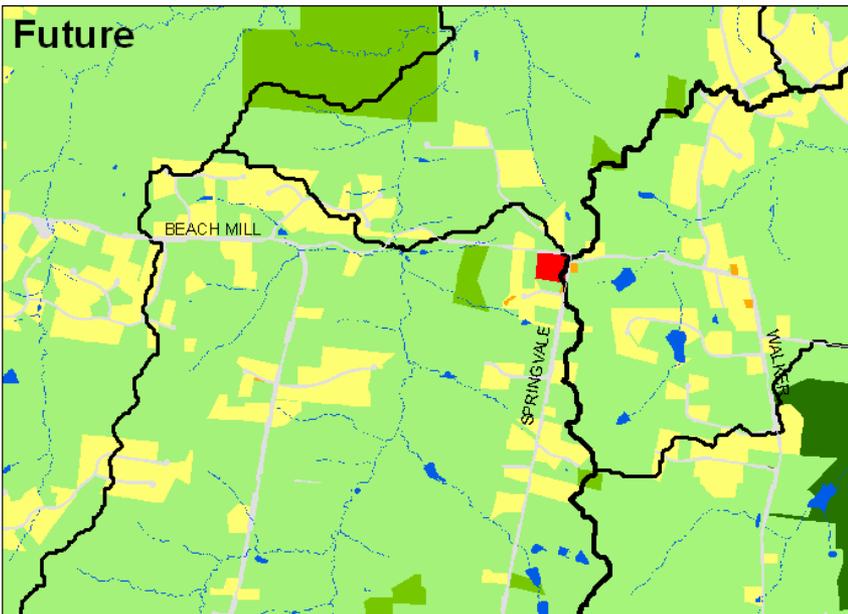
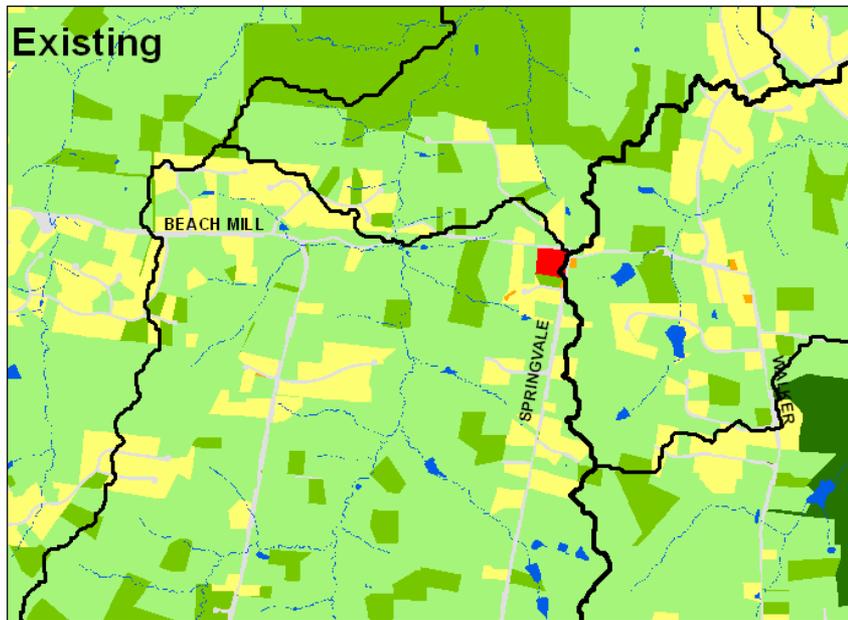


- Supplement 2005 Study
- Habitat conditions
- Impacts to stream from infrastructure & problem areas
- General stream characteristics
- Geomorphic classification
 - Nichol Run – Stage 3 & 4
 - Pond Branch – Stage 3



Chapters 3 & 4

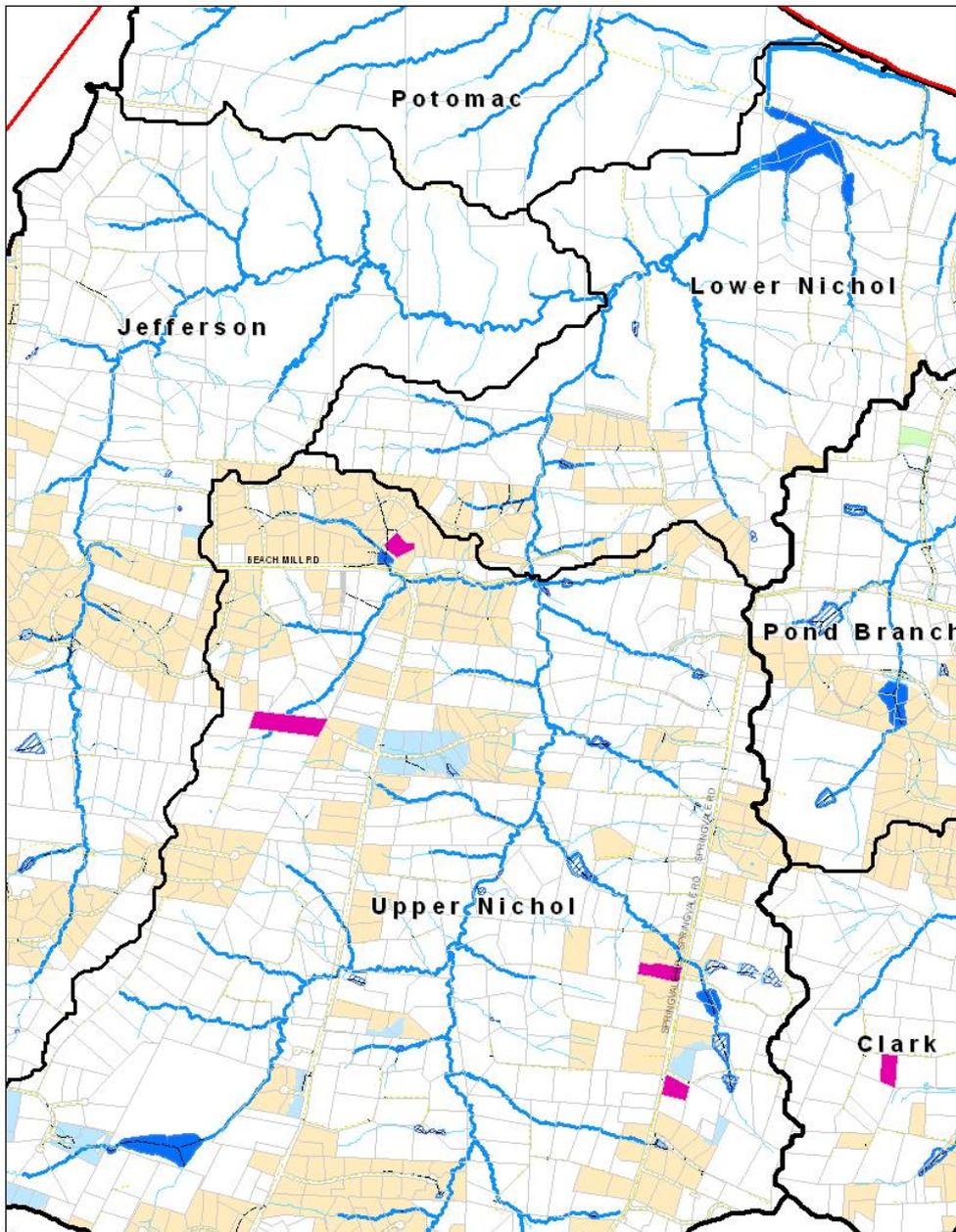
- Present the results of initial assessment of existing conditions
 - Land Use
 - Stormwater Infrastructure
 - Stormwater Management
 - Stream Conditions
 - Field Reconnaissance
 - Stormwater Modeling
 - Subwatershed Ranking
- Results depicted at WMA scale



Land Use

- One of the leading causes of stream degradation, including water quality impairments and habitat decline.
- Future based on County's 25-year Comprehensive Plan





Stormwater Infrastructure

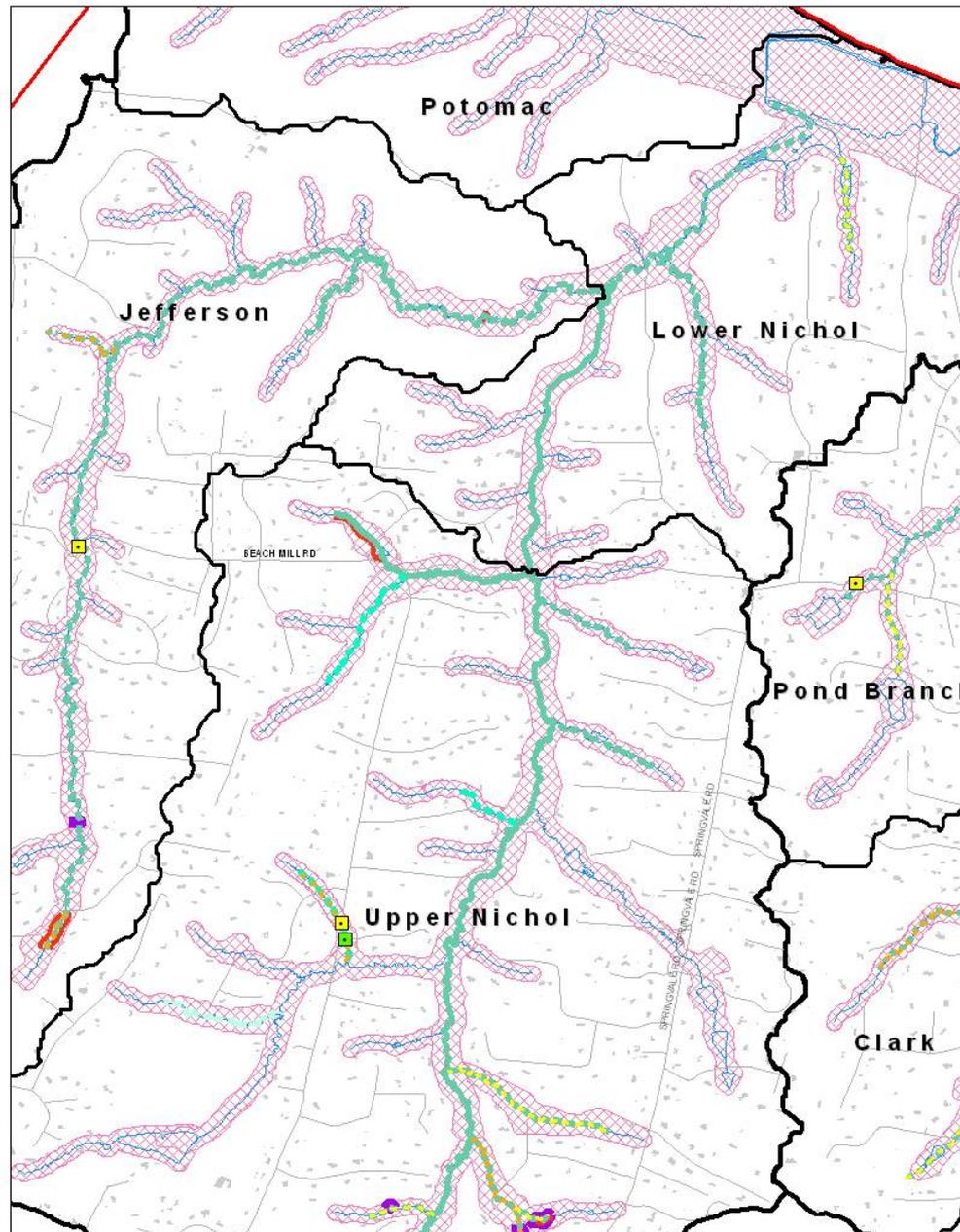
- Regional Ponds
 - Stormwater facilities
 - Stormwater drainage pipes/channels
- Stormwater Management
 - Detention Only
 - Quality/Quantity
 - Quality Only

- | | |
|---------------------------------|------------------------|
| ■ ■ ■ 303d Impaired Waters | Stormwater Facilities |
| ~ Perennial Streams | ● Wet Pond |
| ~ Non-Perennial Drainage | ○ Dry Pond |
| - - - Stormwater Infrastructure | ▨ All Other Facilities |
| ■ Drainage Complaints | Stormwater Controls |
| ● Regional Ponds | ■ Detention Only |
| ● Completed | ■ Quality & Quantity |
| ● Active | ■ Quality Only |
| ● Incomplete | |





Stream Conditions

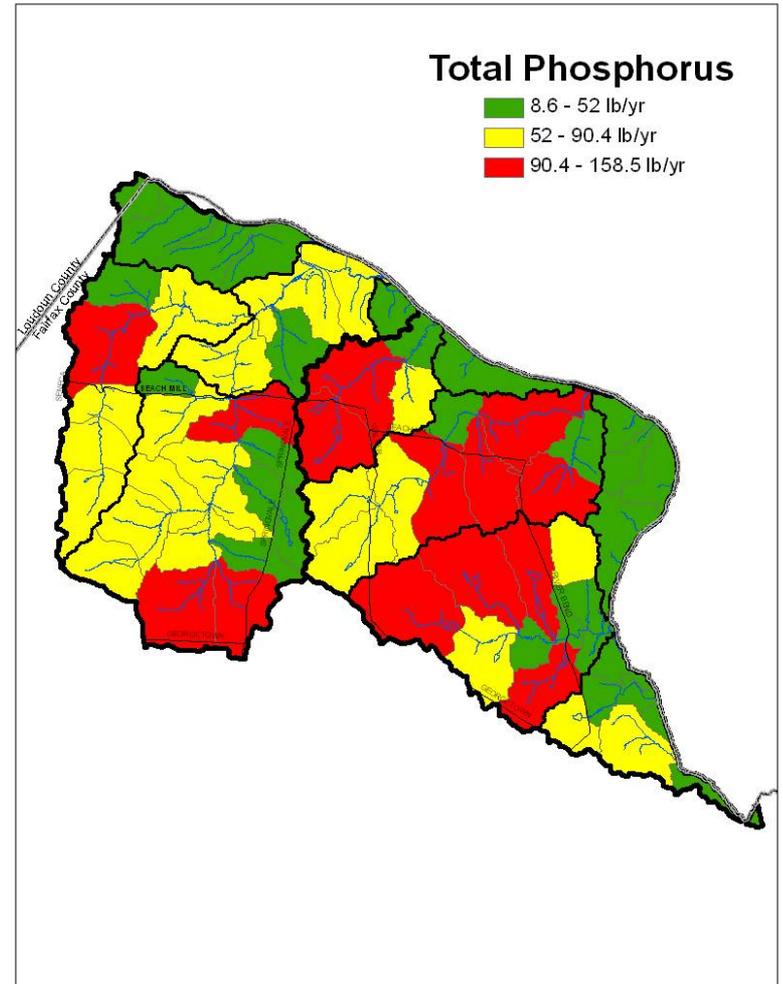
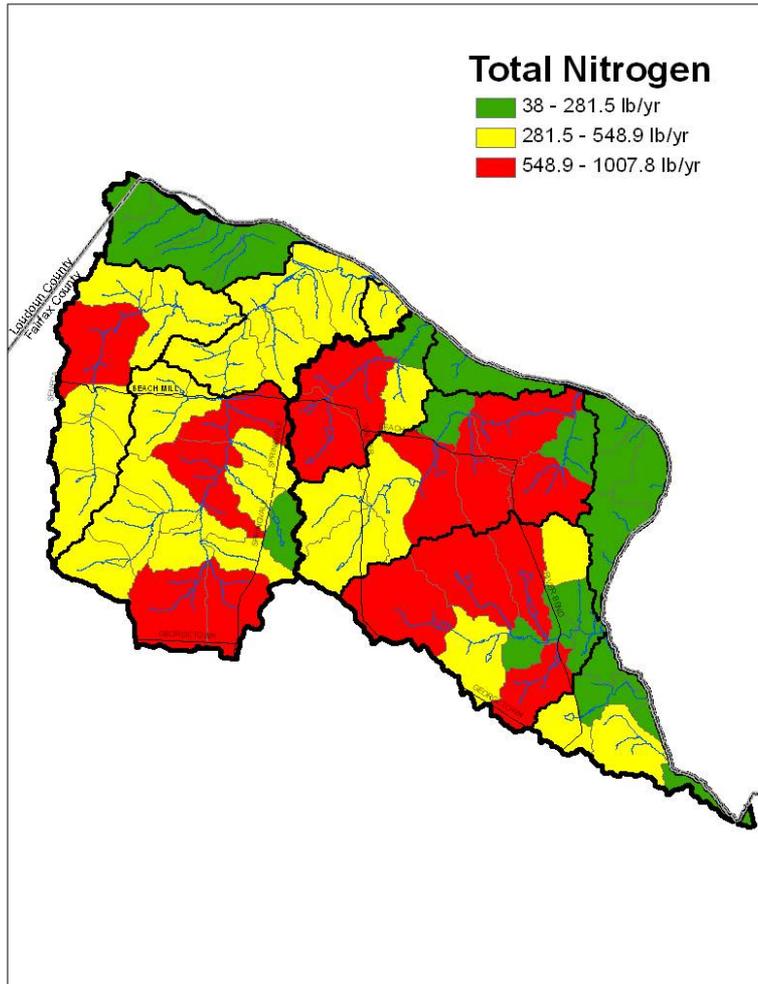


- Head Cuts
- Erosion
- Obstructions
- Stream Crossings
- Pipes
- Dump Sites
- Ditches
- Habitat Scores
- Channel Evolution Models
- Deficient Buffers
- Resource Protection Areas

Head Cut Height	Obstruction Impact	Pipe Impact
● 0.5 - 1ft	⊕ Minor to Moderate	● Minor to Moderate
● 1 - 2ft	⊕ Moderate to Severe	● Moderate to Severe
● > 3ft	⊕ Severe to Extreme	● Severe to Extreme
Utility Impact	Crossing Impact	Channel Evolution Model
◆ Minor to Moderate	■ Minor to Moderate	□ CEM Type 2 - Incision
◆ Moderate to Severe	■ Moderate to Severe	□ CEM Type 3 - Widening
◆ Severe to Extreme	■ Severe to Extreme	□ CEM Type 4 - Stabilizing
Dump Site Impact	Ditch Impact	□ Poor to Very Poor Habitat
● Minor to Moderate	● Minor to Moderate	□ Fair Habitat
● Moderate to Severe	● Moderate to Severe	□ Deficient Buffer
● Severe to Extreme	● Severe to Extreme	□ Severe to Extreme Erosion
		□ Resource Protection Areas

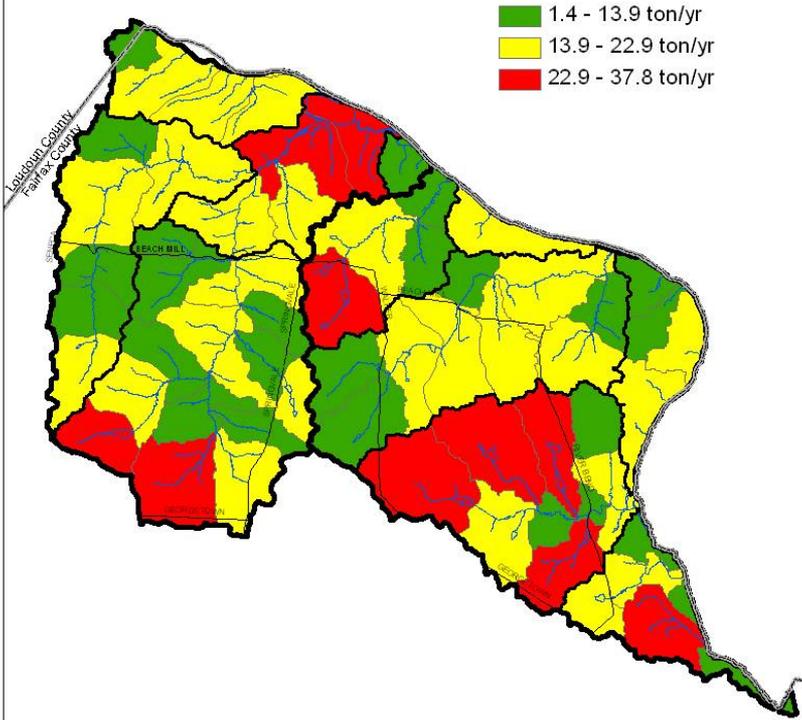


Nutrients from Stormwater Runoff



Sediment from Stormwater Runoff

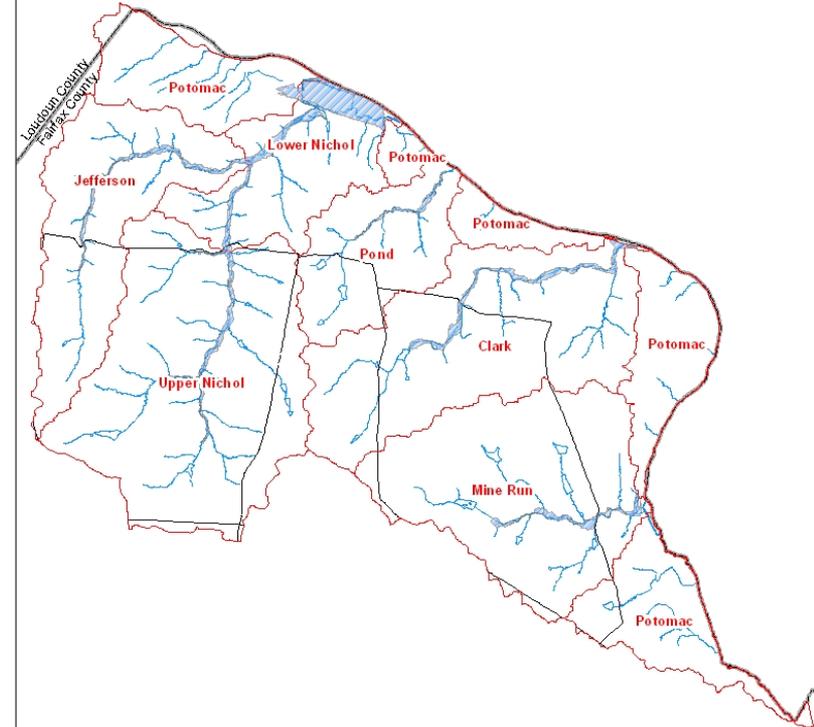
Total Suspended Solids (Sediments)



Floodplain Modeling

Floodplains

100-Year Flood Zone



Subwatershed Ranking

Purpose

- To provide a systematic means of compiling available water quality and natural resources information.
- Ranking subwatersheds provides a tool for planners and managers to set priorities to use as they consider which subwatersheds should undergo further study.
- Methods are consistent throughout the latest set of Watershed Management Plans, so ranking is comparable between watersheds.

Subwatershed Ranking

Fairfax County Goals

1. Improve and maintain watershed functions in Fairfax County, including water quality, habitat, and hydrology.
2. Protect human health, safety, and property by reducing stormwater impacts.
3. Involve stakeholders in the protection, maintenance and restoration of county watersheds.

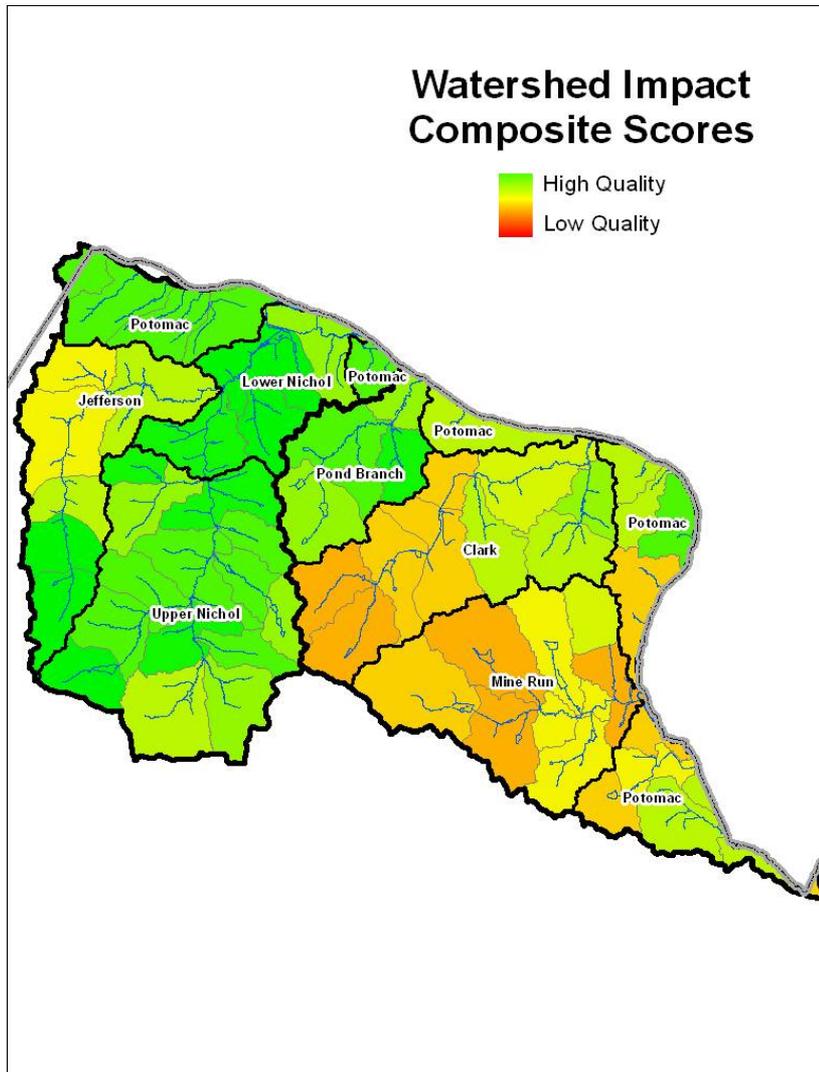
Fairfax County Objectives

1. Hydrology
2. Habitat
3. Stream Water Quality
4. Drinking Water Quality
5. Stewardship

Subwatershed Ranking Indicators

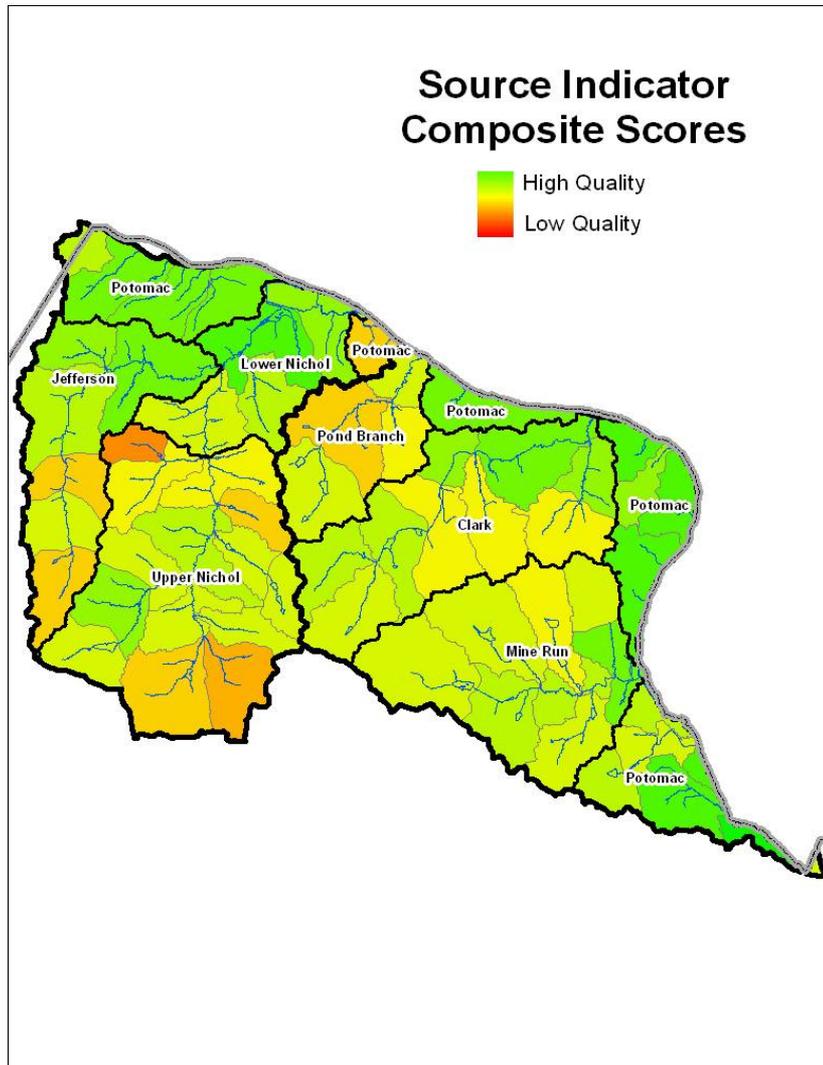
- Watershed Impact Indicators
- Source Indicator
- Programmatic Indicators

Watershed Impact Indicators: *Watershed condition*



- Benthic Communities
- Fish Communities
- Aquatic Habitat
- Channel Morphology
- Instream Sediment
- Building Hazards (floodplain)
- Flood Complaints
- Riparian Habitat
- Wetland Habitat
- Forested Habitat
- E. Coli Concentration
- Sediment & Nutrient Runoff

Source Indicators: *Sources of watershed stressors*



- Channelized Streams
- Impervious Area
- Stormwater Outfalls
- Onsite Sewage Disposal
- Streambank Buffer Deficiency
- Sediment & Nutrient Runoff
- Percent Urban Landcover
- Industrial Discharges

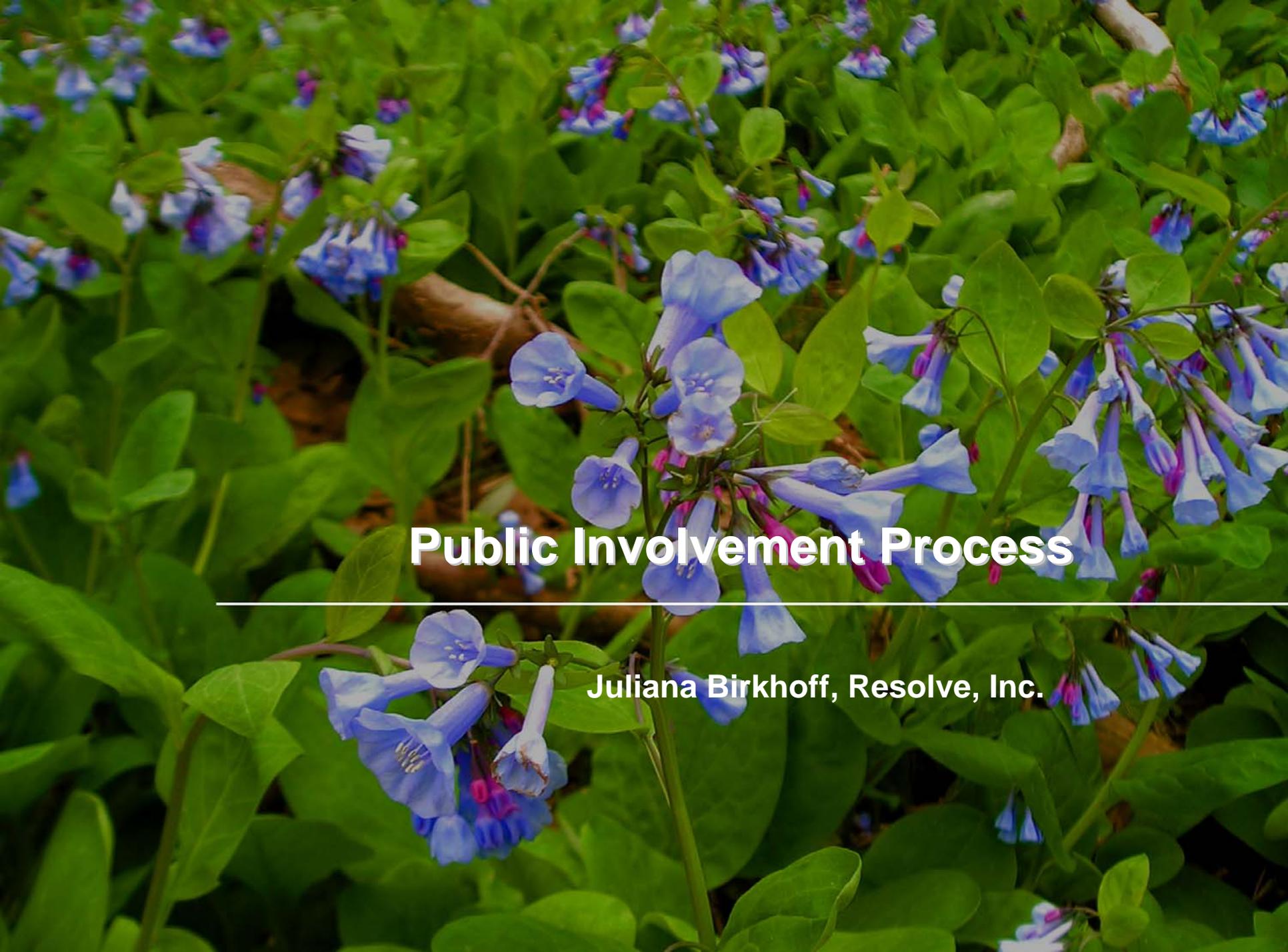
Programmatic Indicators

- Existing stormwater management facilities
- A tool to evaluate watershed management needs
- Will be used during *Candidate Project Identification*



Summary

- Where we are in the process
 - Initial Evaluation of Existing Conditions
 - Preliminary Modeling & Subwatershed Ranking
- Next Steps
 - Public Involvement
 - Comprehensive Evaluation of Existing Conditions, Public Input, and Future Build-out Scenarios
 - Develop and Prioritize Restoration and Preservation Strategies

A close-up photograph of a dense field of blue and purple flowers, likely Salpiglossis, with vibrant green foliage. The flowers are bell-shaped and hang from thin stems. The background is filled with more of the same plants, creating a lush, textured appearance.

Public Involvement Process

Juliana Birkhoff, Resolve, Inc.

Public Involvement Process

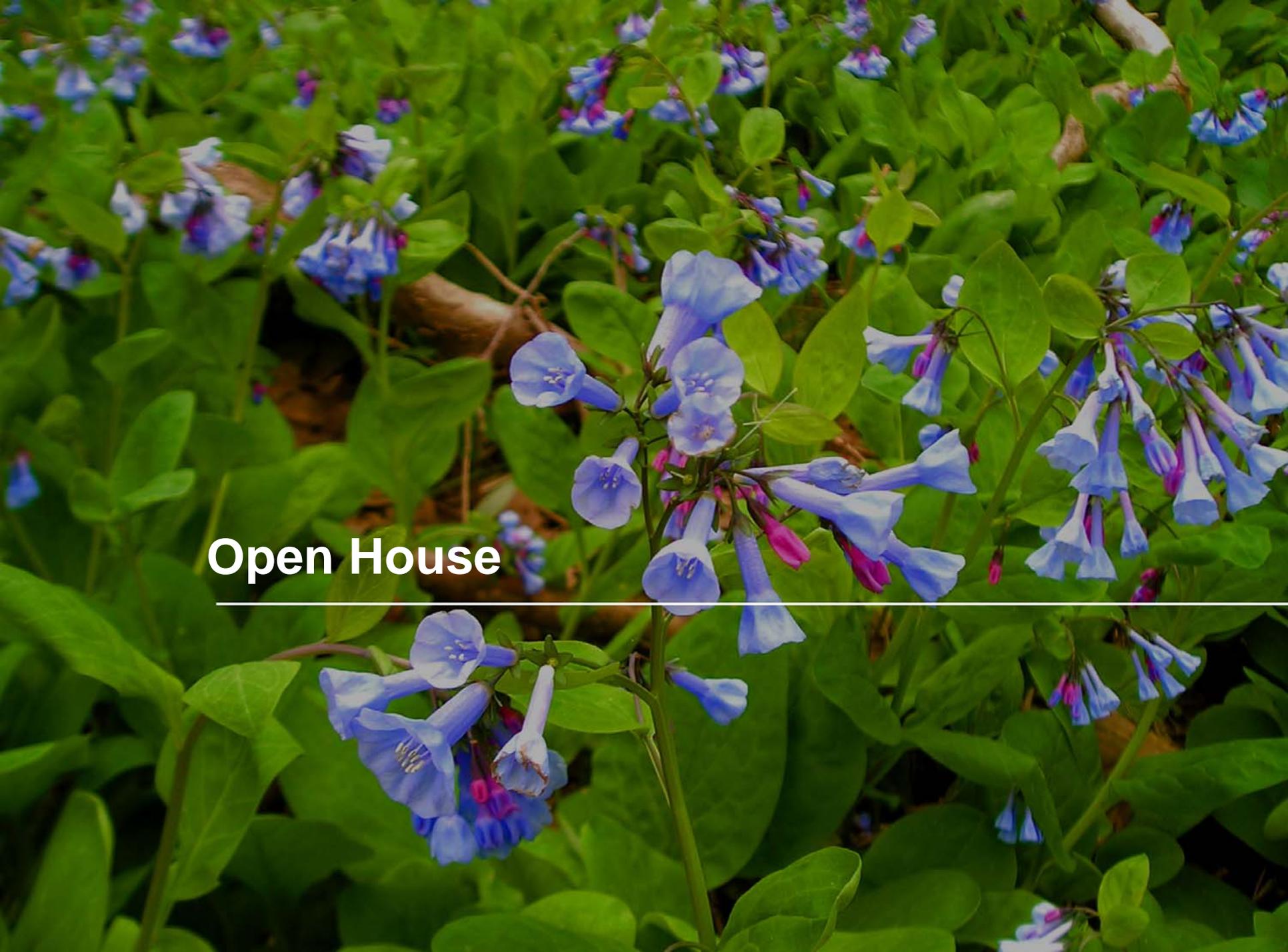
- Introductory and Issues Scoping Forum
- Watershed Advisory Group (WAG)
 - Approximately 20 individuals
 - Represent diverse community needs and interests across the watershed
 - Meets periodically over a 9-12 month period
- Draft Plan Review Workshop
- Final Plan Review period (online)

Getting Involved

1. Join the Nichol Run/Pond Branch WAG
 - Volunteer yourself or suggest others
2. Provide information
 - Neighbors, colleagues, friends
3. Participate in our Virtual Forum

www.fairfaxcounty.gov/dpwes/watersheds/nicholrun.htm

4. Submit Comments or Questions
 - By Phone: 703-324-5500, TTY 711
 - By Email: watersheds@fairfaxcounty.gov
 - By Fax: 703-802-5955

A close-up photograph of a dense field of flowers. The flowers are primarily light blue and purple, with some showing darker purple or pinkish hues. They are arranged in clusters on thin stems. The foliage is lush green, with many leaves visible. The background is slightly blurred, emphasizing the foreground flowers.

Open House
