

# Pohick Creek Watershed Management Plan

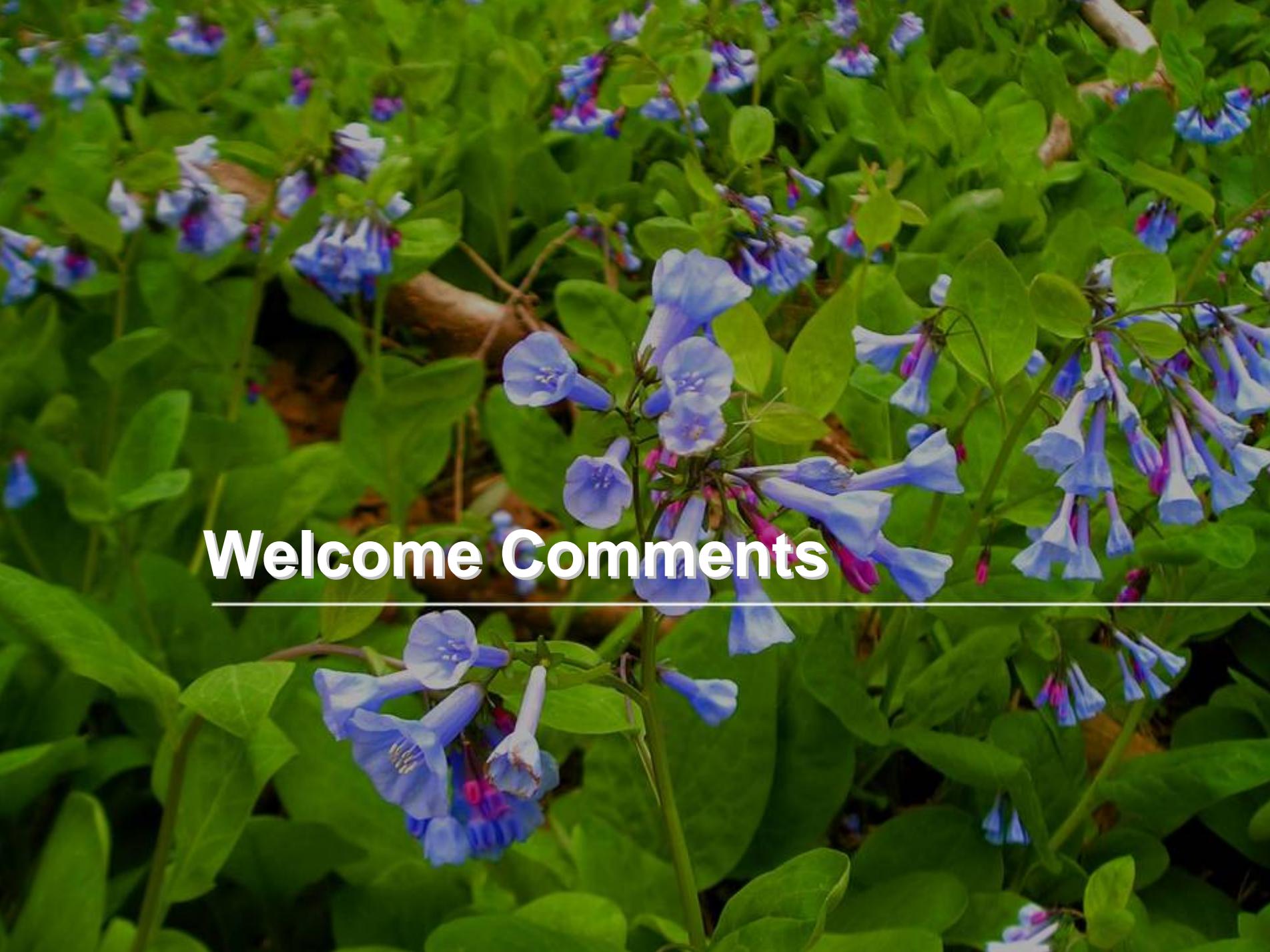
Introductory & Issues Scoping Forum  
October 15, 2008

---

**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 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.

**Welcome Comments**

---

# Agenda

- **Watershed Primer (10 min.)**  
Shannon Curtis, Fairfax County
- **Draft Watershed Workbook Summary (20 min.)**  
Trish Hennessy-Webb, PBS&J
- **Public Involvement Process (5 min.)**  
Beth Offenbacher, Waterford, Inc.
- **Open House (1 hr.)**
  - Break out into 3 groups of the watershed
  - Identify issues, provide comments & concerns

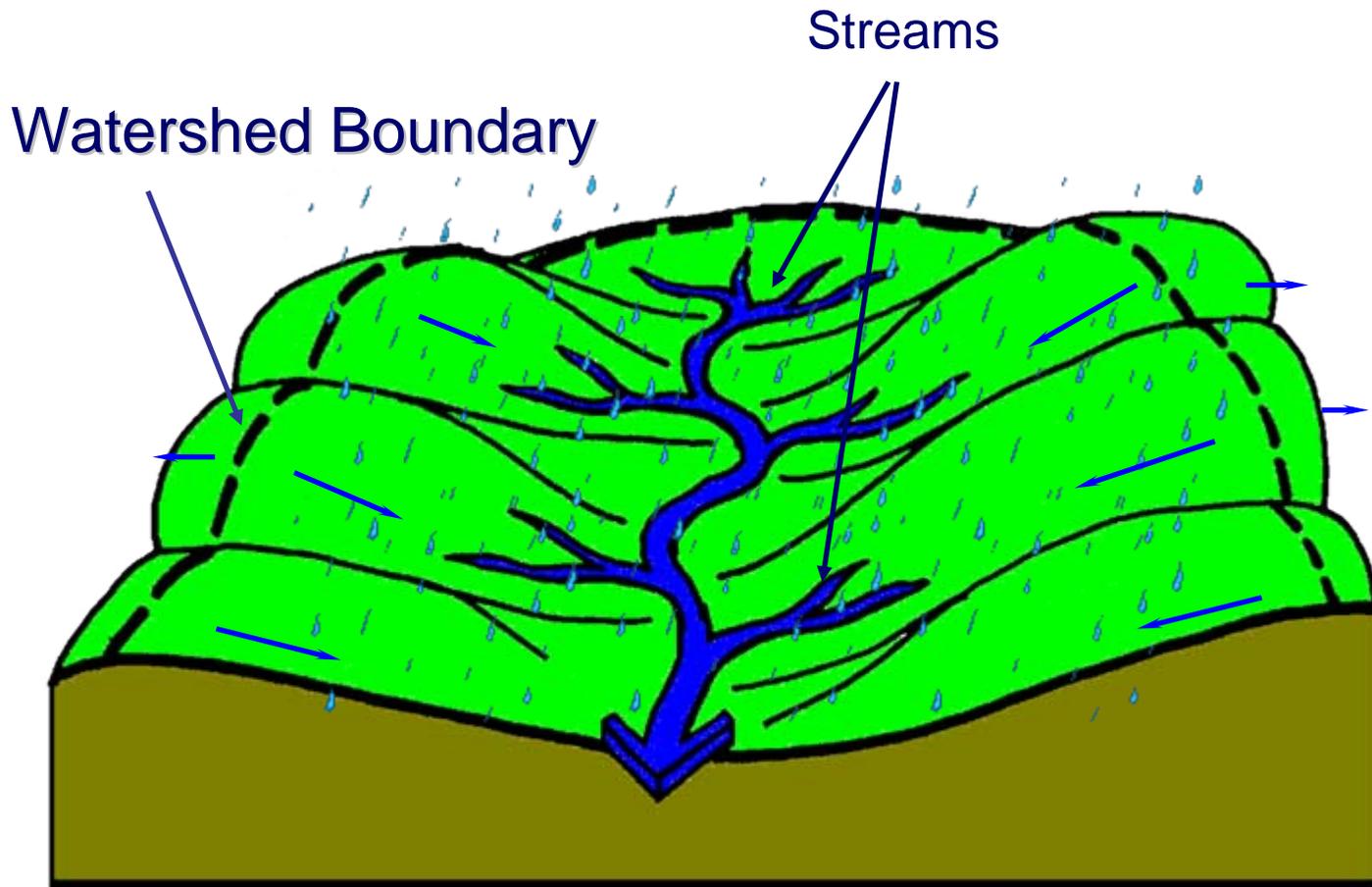
A close-up photograph of a dense field of blue and purple flowers, likely a species of primula, with vibrant green foliage. The flowers are in various stages of bloom, some fully open and others as buds. The background is a soft-focus expanse of similar plants, creating a sense of a large, healthy population.

# Watershed Primer

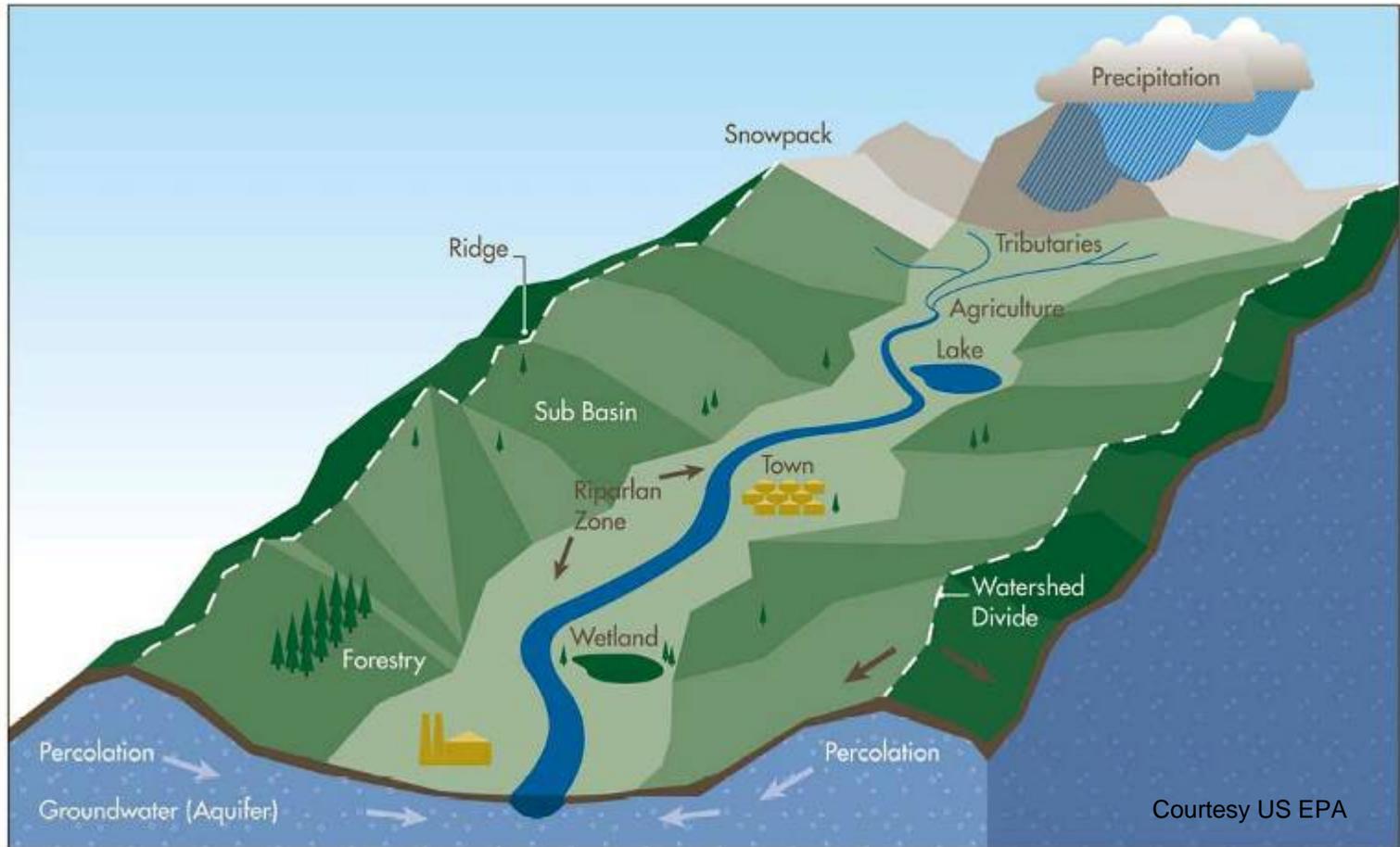
---

Shannon Curtis, Fairfax County

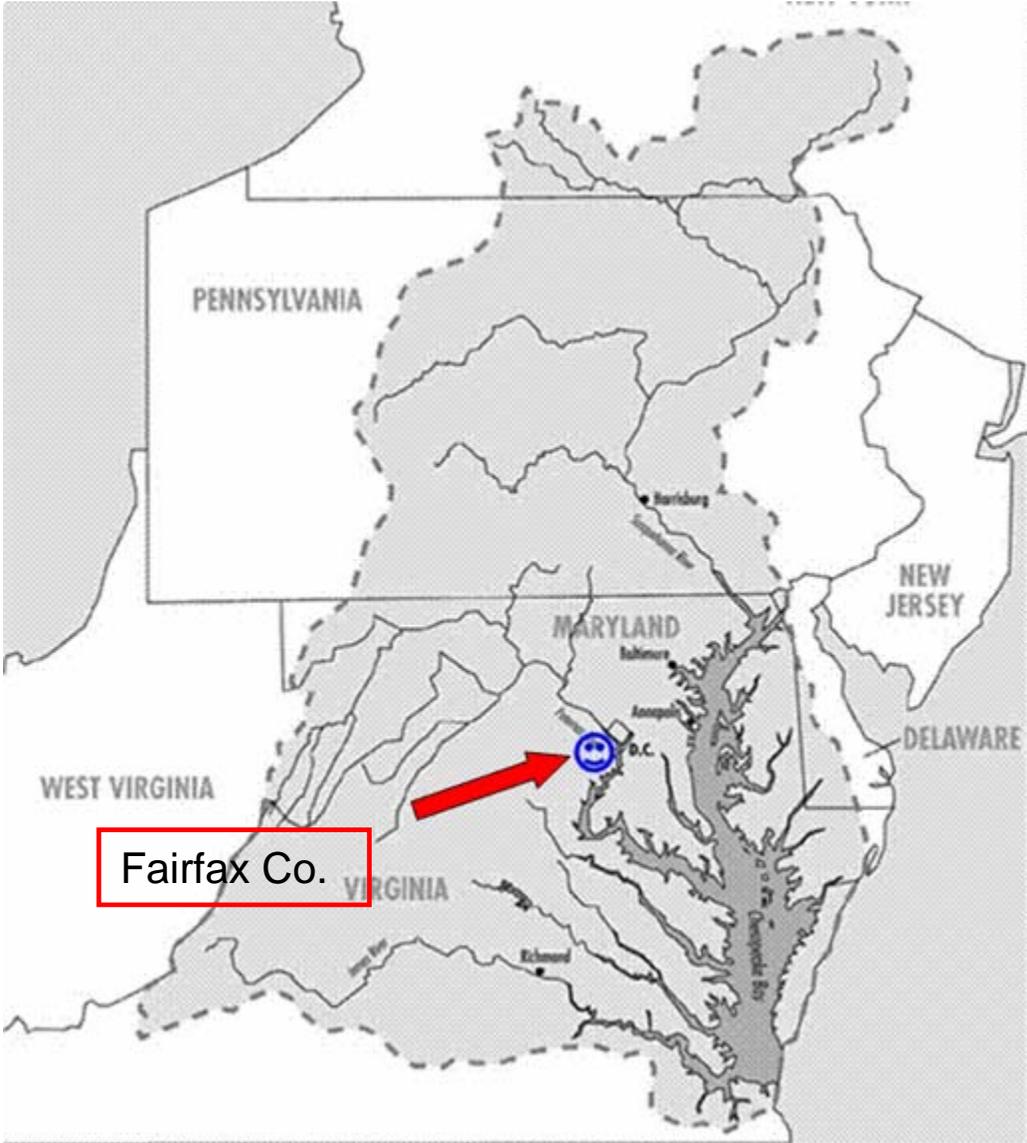
# What is a Watershed?



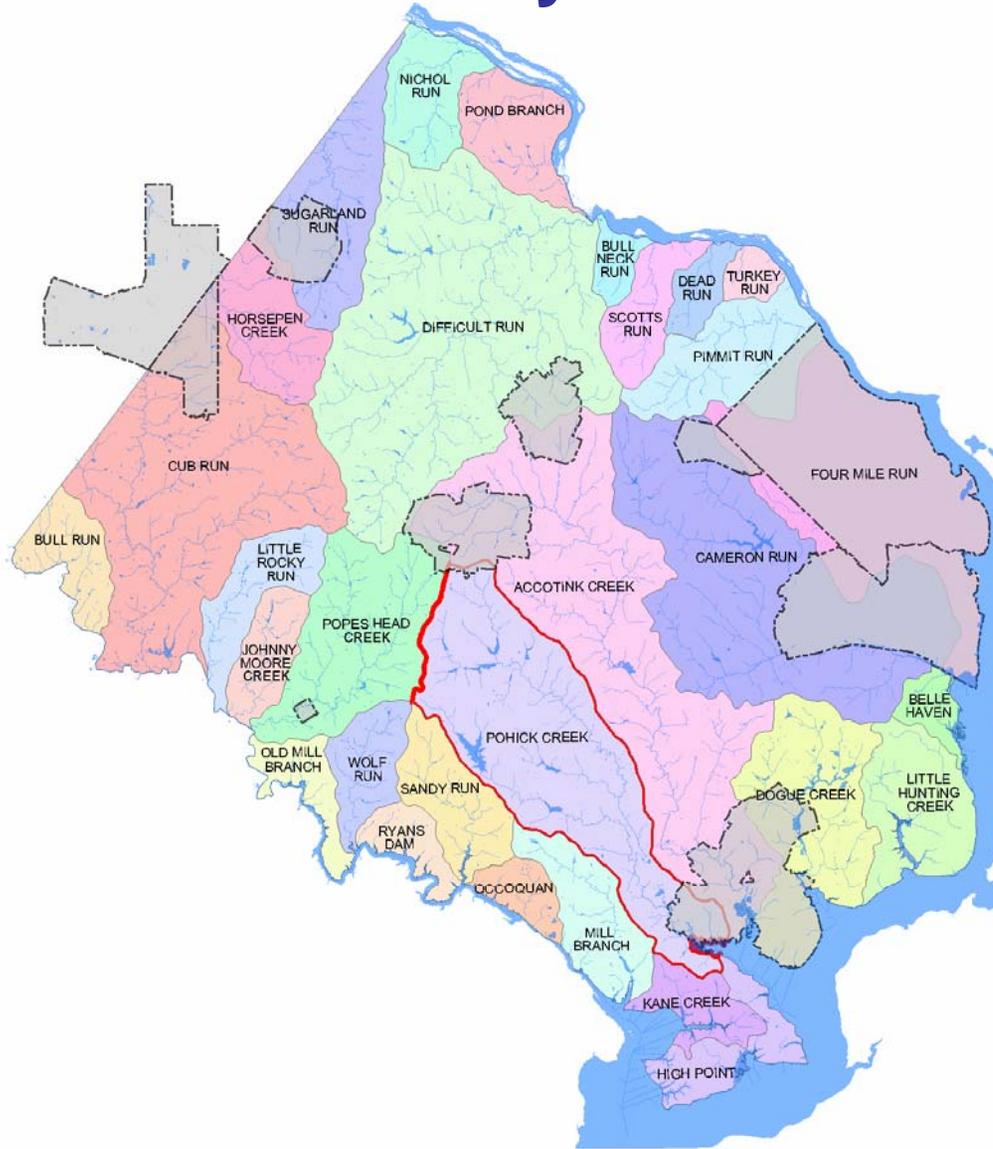
# What is a Watershed?

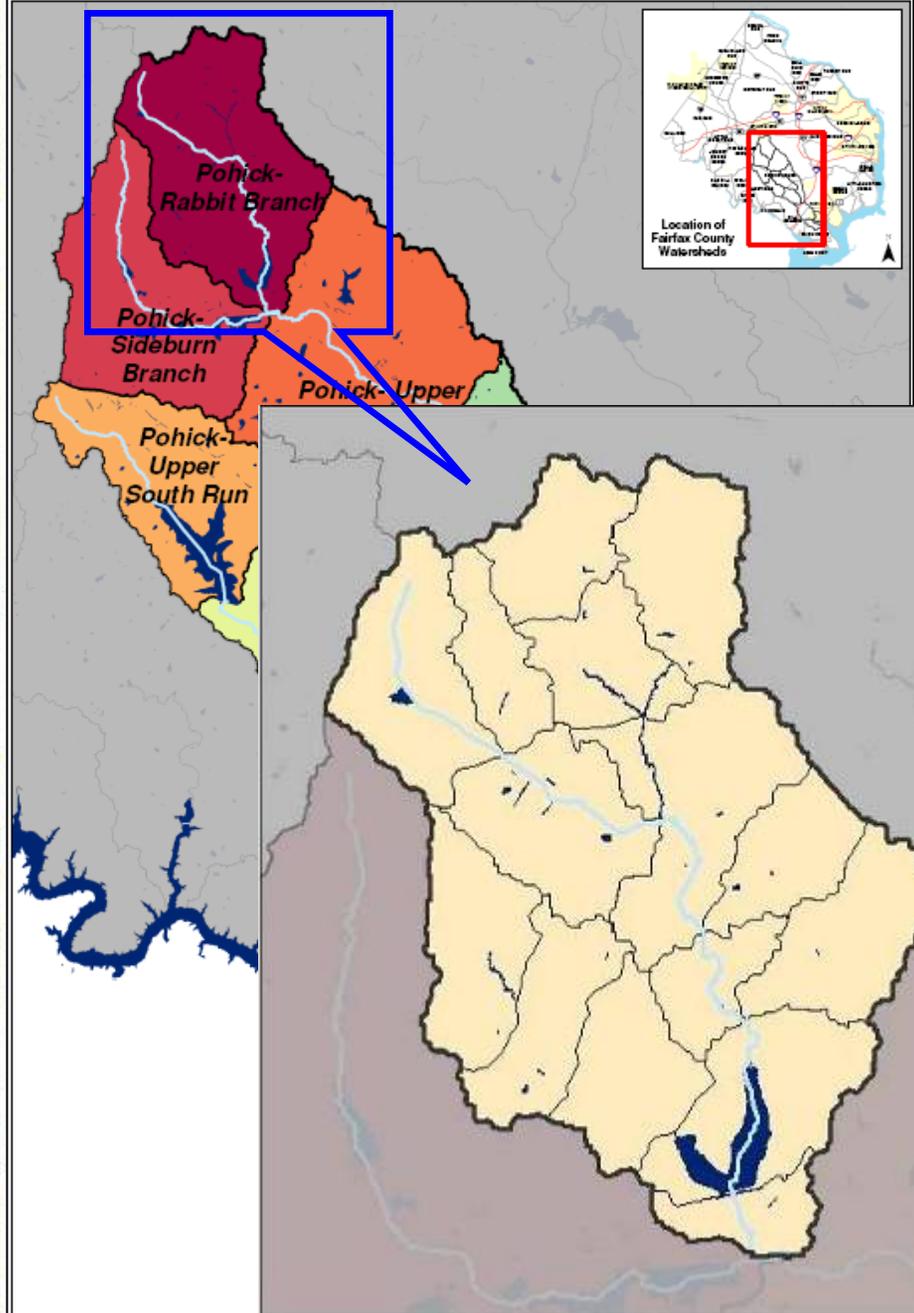


# Chesapeake Bay Watershed



# Fairfax County Watersheds





# Watershed Planning Study Units:

- Watershed Management Area (WMA) (3-5 square mi)
- Subwatershed (100-300 acres)



# Stormwater Management

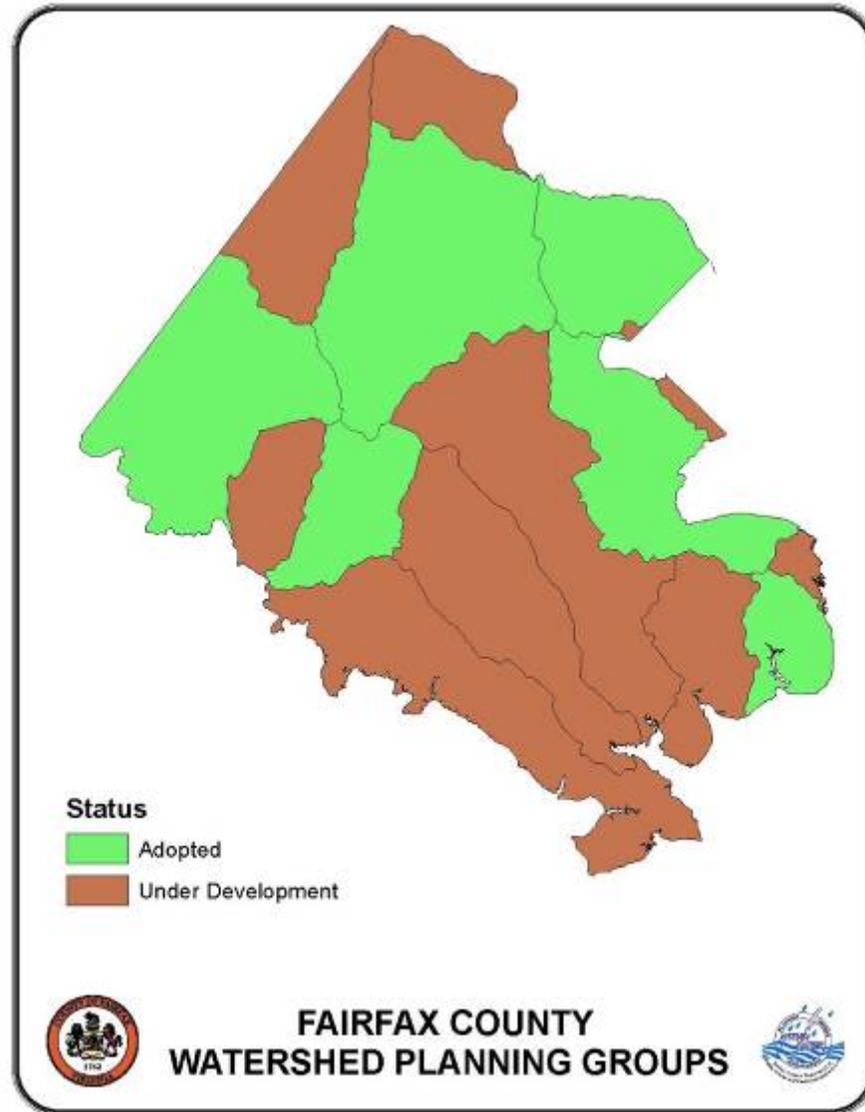
The process of controlling **stormwater runoff** that drains from rooftops, driveways, roads and other hard surfaces that do not allow water to permeate into the ground.



# 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 timeframe for **implementation**

# The Watershed Planning Process

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





# Common Watershed Issues

- ✓ Development and Land use
- ✓ Biological Conditions and Wildlife
- ✓ Nonpoint Source Pollution
- ✓ Litter and Physical Condition of Streams
- ✓ Flooding of infrastructure
- ✓ Landscaping Practices
- ✓ Public Involvement and Awareness

# Why create watershed plans?

Healthy watersheds, healthier communities



A close-up photograph of a dense field of blue and purple flowers, likely Virginia bluebells, with vibrant green foliage. The flowers are in various stages of bloom, some fully open and others as buds. The background is a soft-focus expanse of similar plants, creating a sense of a large, healthy population.

# Watershed Workbook

---

Trish Hennessy-Webb, PBS&J

# Pohick Creek Watershed Quick Facts

- Pohick Creek – 36 mi<sup>2</sup> (9% of County)
  - One of the largest watersheds
  - Majority land is open space and residential use
  - Single family detached
  - Some commercial/industrial
- 180 miles of streams
  - 13 named tributaries
    - Pohick Creek
    - Middle Run
    - South Run
  - Multiple Regional Ponds
  - 10 Watershed Management Areas (WMAs)
  - >135 Subwatersheds
- Unique Features
  - 6 Flood Control Impoundments (PL-566)
  - City of Fairfax
  - Fort Belvoir
  - Laurel Hill (formally Lorton Correctional Facility)



# Pohick Creek Watershed

# Watershed Workbook

- Chapter 1: Existing Studies
  - Review /Synthesis of Previous Studies and Data Compilation
- Chapter 2: Characterization
  - Detailed Watershed Management Area characterization
- *Chapter 3: Restoration Strategies (future)*
  - *Development of Candidate Projects*

# Workbook Ch. 1 - Studies

- Fairfax County Reports
  - Fairfax County Stream Protection Strategy Baseline Study
  - Fairfax County Comprehensive Plan
  - Role of Regional Ponds in Fairfax County's watersheds
  - A Restudy of the Pohick Watershed (1967)
  - Pohick Creek Watershed Environmental Baseline Evaluation (1973)
- Geographic Information Systems (GIS) data
  - Drainage Complaints
  - Land use
  - Impervious Area
- Regulatory Requirements
  - Environmental Protection Agency
  - Virginia Department of Environmental Quality
  - Chesapeake Bay Program
  - Municipal Separate Storm Sewer Systems Permit

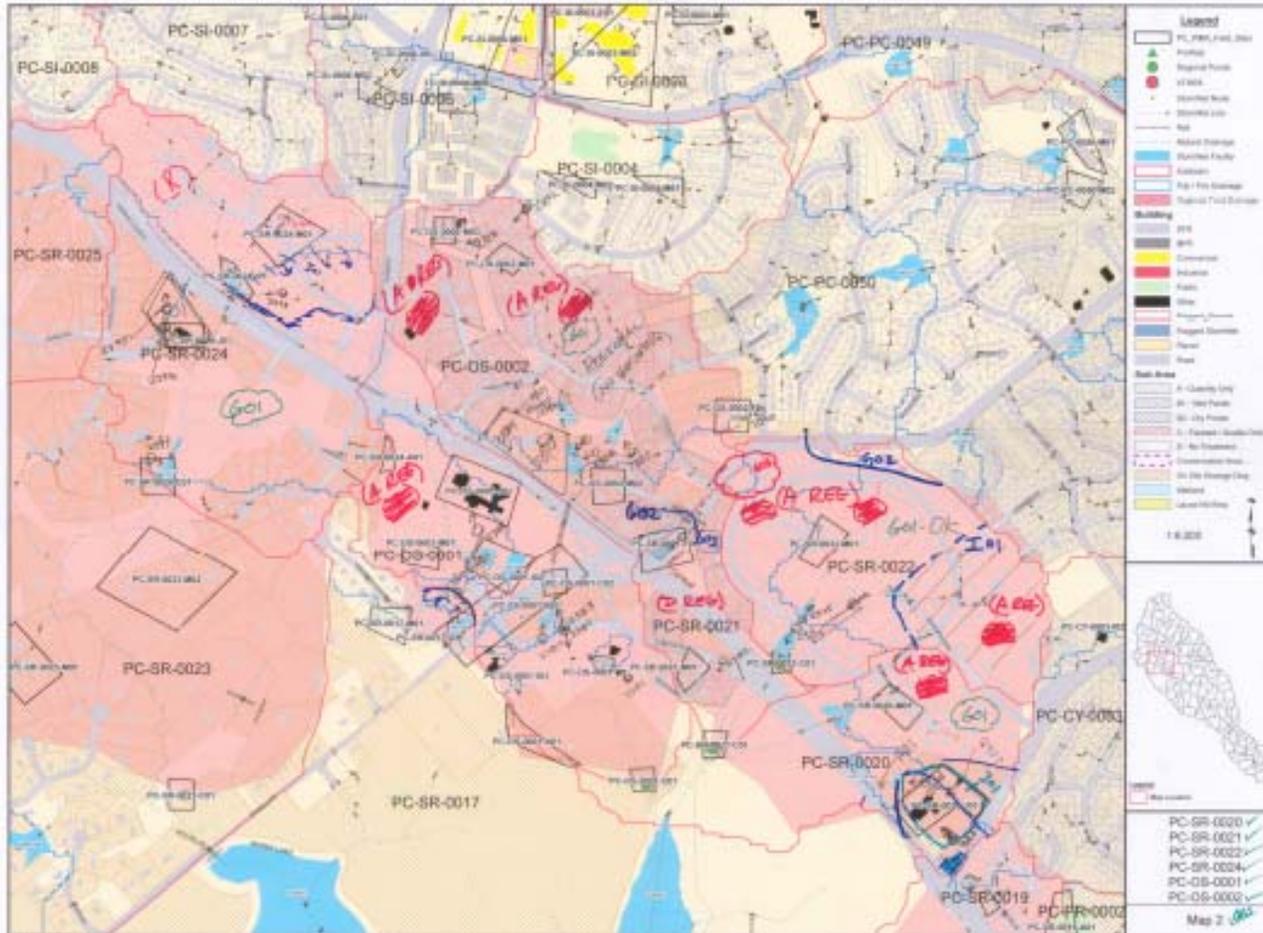


# Workbook Ch. 2 - Characterization

- Identify Current Conditions
  - Field effort
  - data gaps
- Land Use
  - Existing
  - Future
- Stormwater Infrastructure
  - Regional Ponds
  - Best Management Practices (dry ponds/wet ponds)
- Stream Conditions
- Computer Modeling
  - Water Quality
  - Water Quantity
- Subwatershed Ranking/Prioritization

# Current Conditions: Field effort

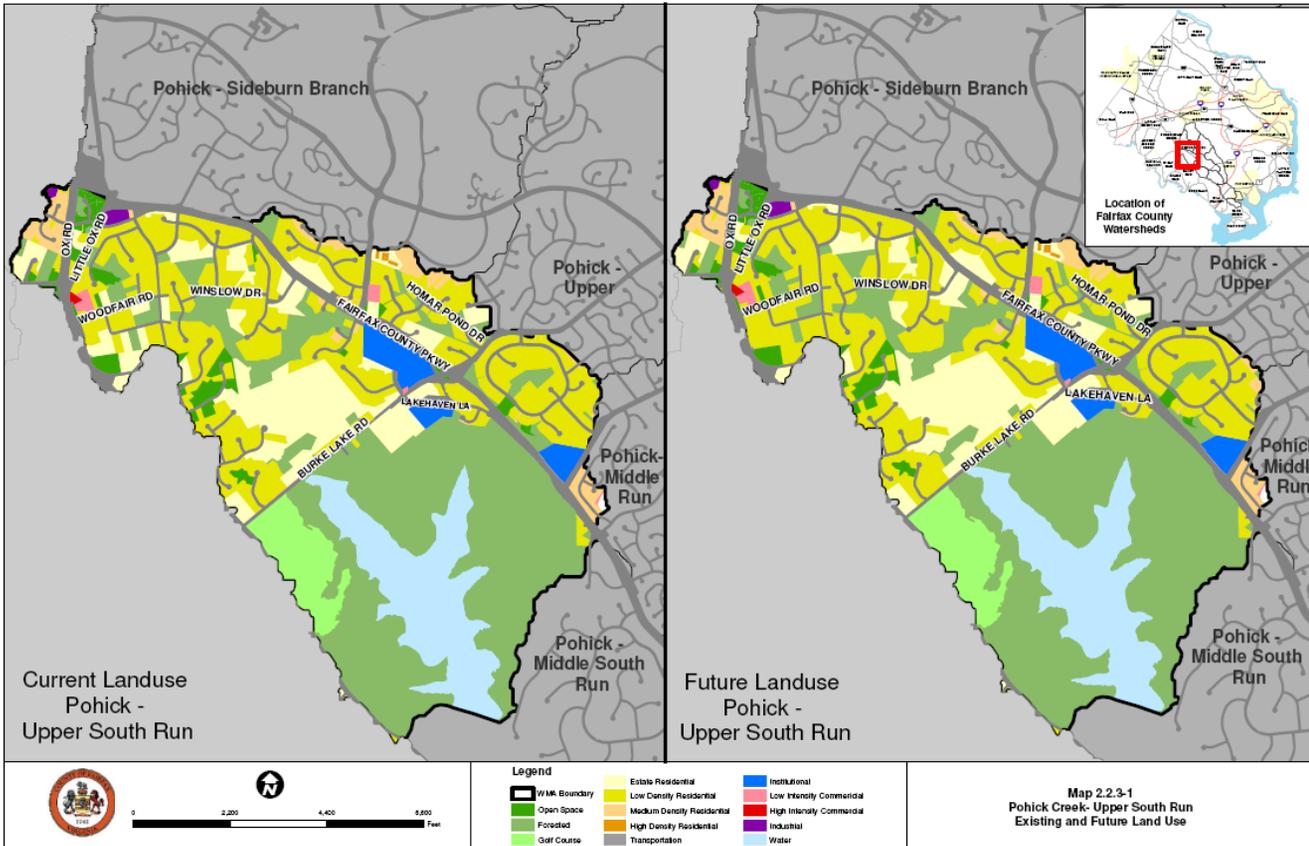
Fairfax County Watershed Plan - Subbasin Boundary Map - Pohick Creek - Upper South Run



- IDENTIFIED:**
- Data Gaps
  - SWM
  - New Construction
  - New Ponds
  - Hot Spots
  - Neighborhood Source Assessment
  - Pro Rata projects
  - Need public Input



# Land Use – Upper South Run



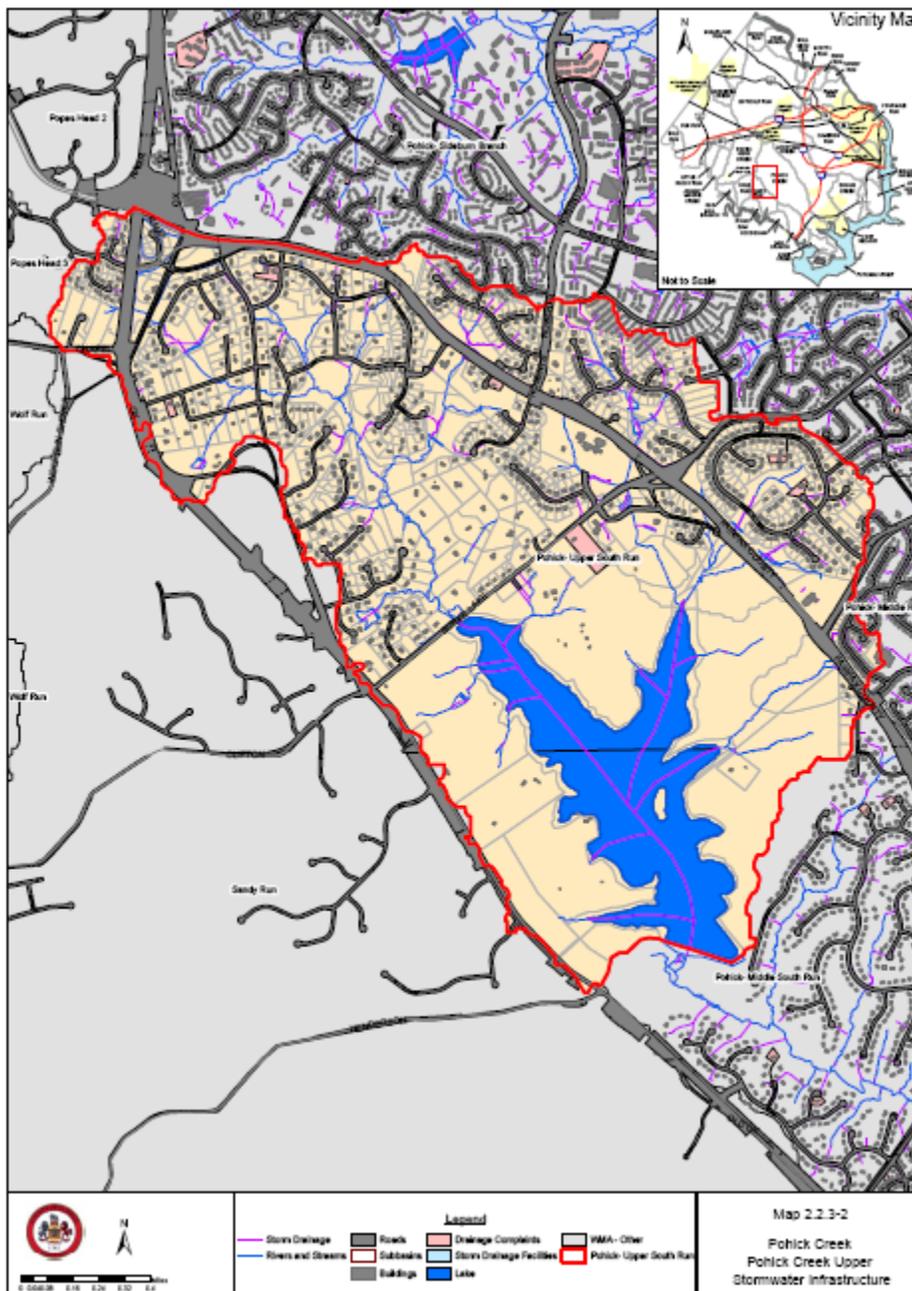
- Forested
- Residential
- Industrial
- Institutional

Nearly Built-Out  
23% Impervious

*-Need public  
Input*

Current land use

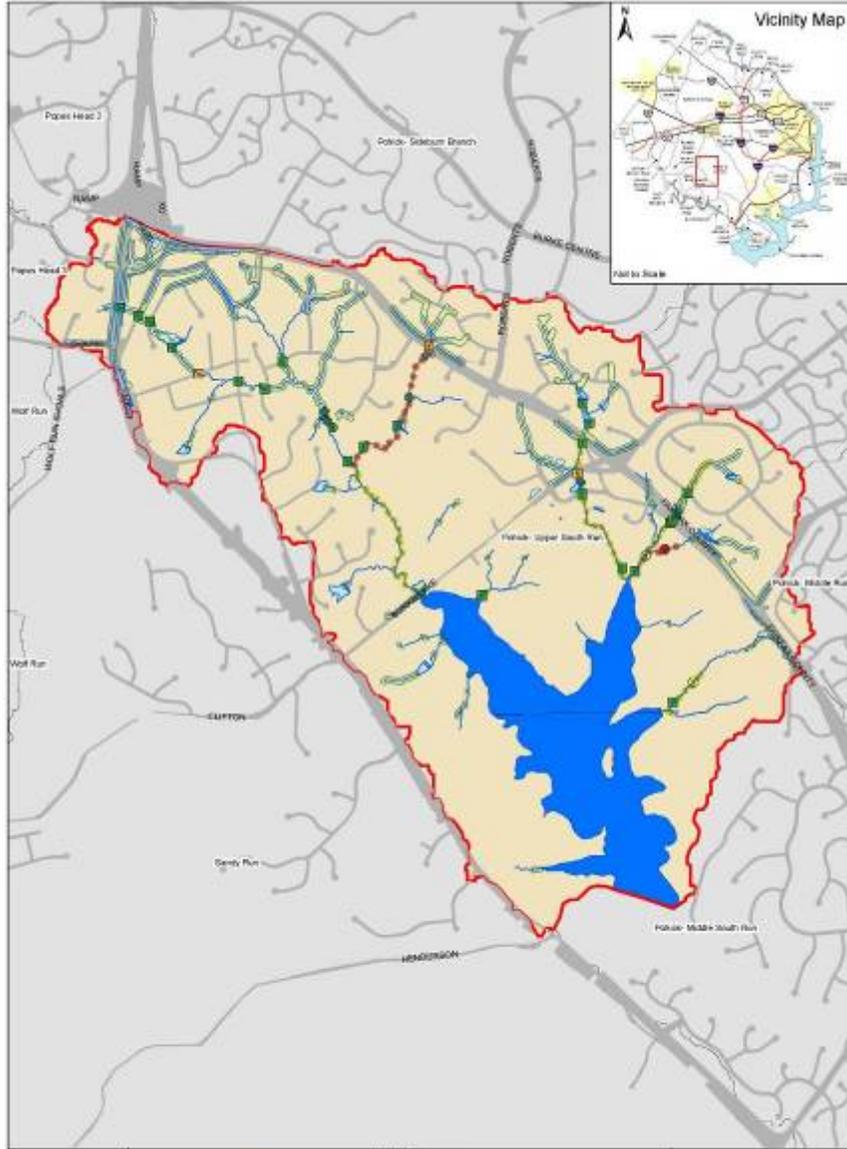
Future land use



# Stormwater Infrastructure

- Drainage Complaints
- Storm drainage facilities
- Lakes
- Stormwater treatment type





**Legend**

Plan/Design/Pre Habitat	CEM - Type 2: Incision	Distributor Buffer	Subwatershed	City EIR/ISD Boundaries
Streams and Rivers	CEM - Type 5: Filtering	Trails	Lake	Public: Upper South Run
Process/Soak Infiltrability	Road Cut Impact: Plan Impact	Clean Impact	Liability Impact	Clearing Impact
Bank to Bank	Road Cut Impact: Plan Impact	Clean Impact	Liability Impact	Clearing Impact
Road to Road	Road Cut Impact: Plan Impact	Clean Impact	Liability Impact	Clearing Impact
Road to Stream	Road Cut Impact: Plan Impact	Clean Impact	Liability Impact	Clearing Impact
Stream to Stream	Road Cut Impact: Plan Impact	Clean Impact	Liability Impact	Clearing Impact

Map 2.2.3-3  
Pohick Creek Upper South Run Stream Conditions

# Stream Conditions

Habitat conditions

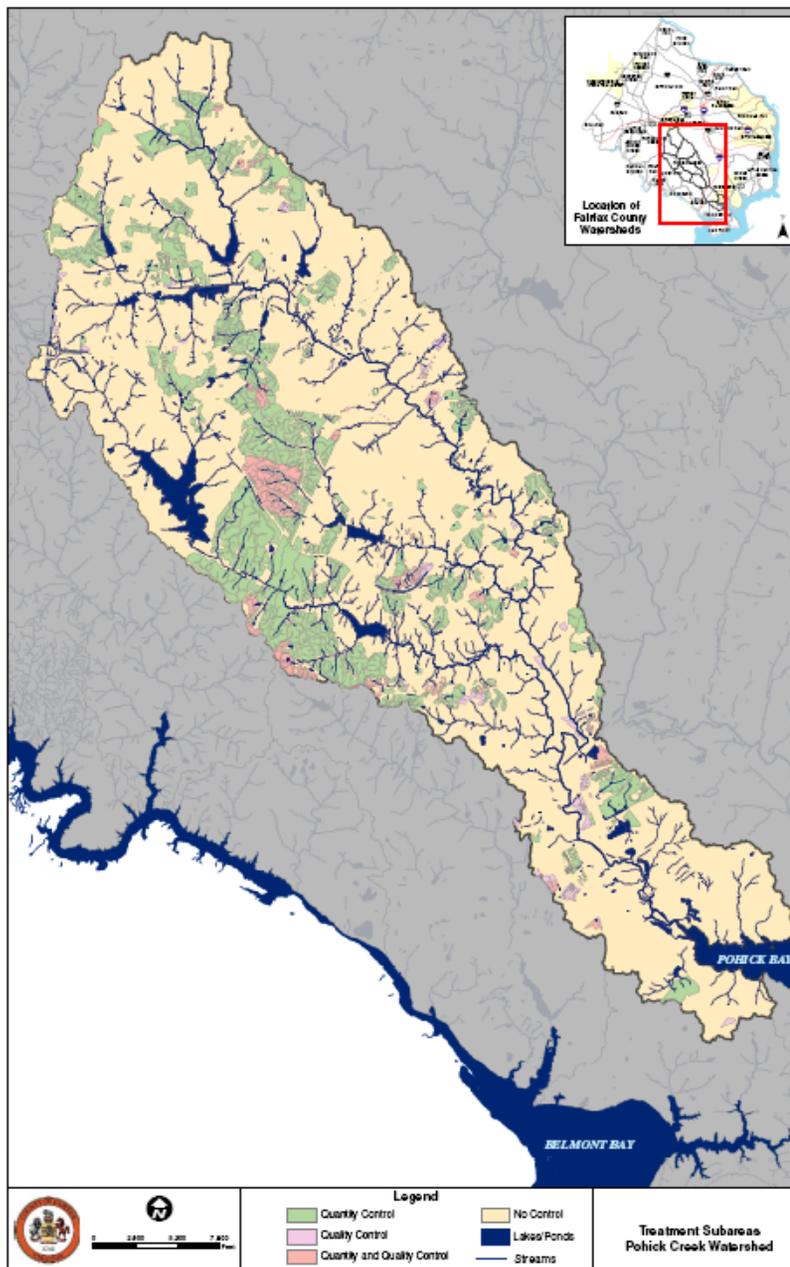
Impacts to Streams

- Stormwater impacts
- Erosion
- Crossing impacts
- Dump sites
- Obstructions
- Buffer deficiencies

Channel Evolution Model (CEM)

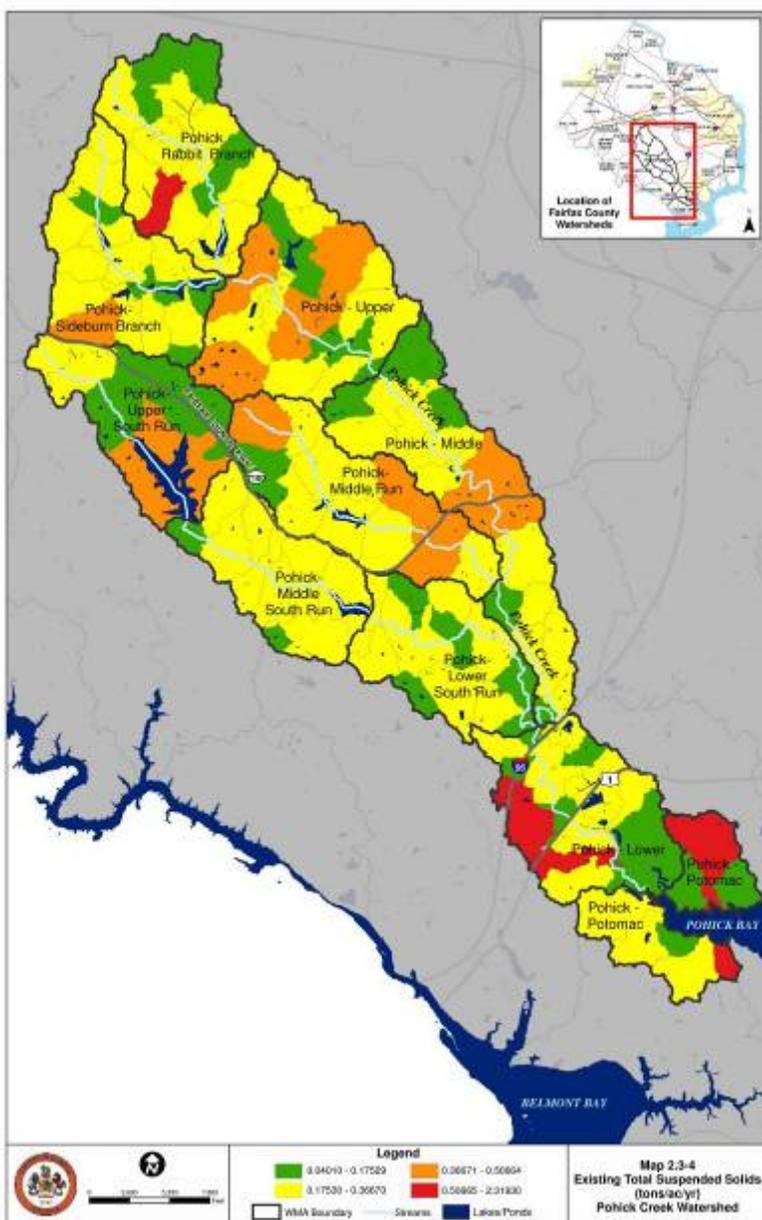
- Stability of channel
- Incision/widening/stabilizing



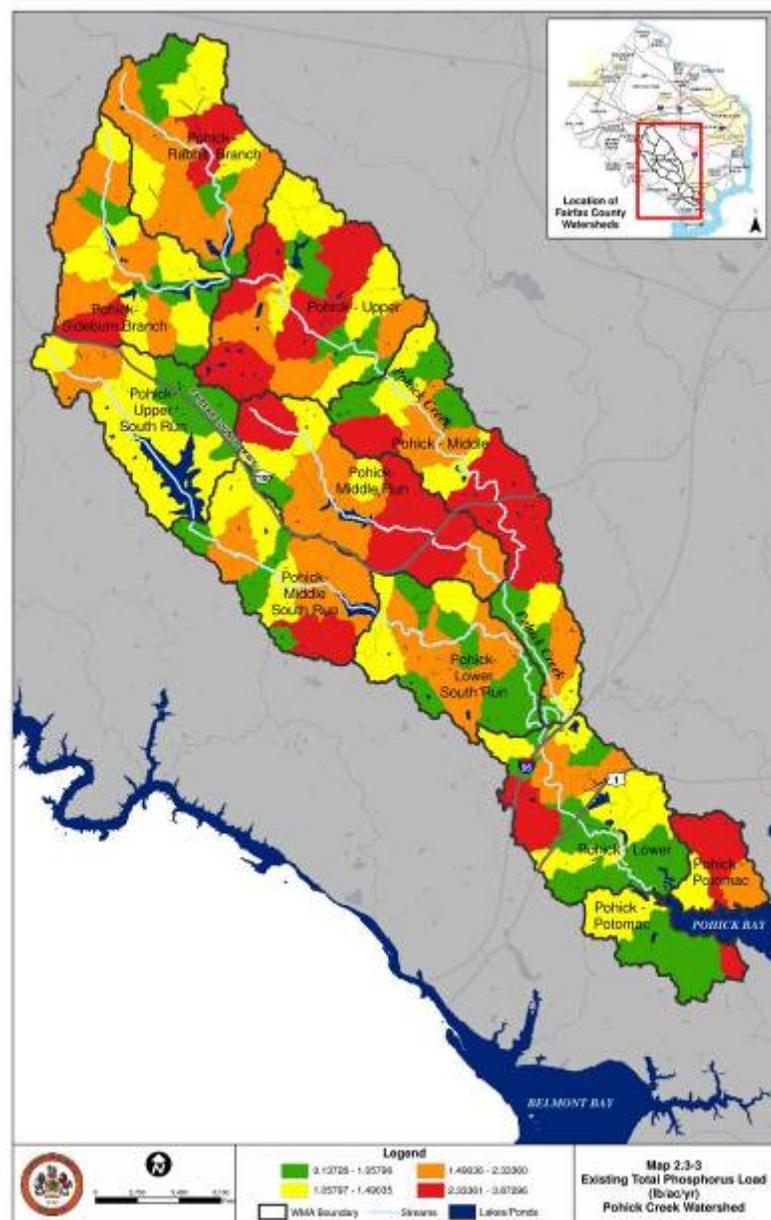


# Overall Stormwater Treatment

- Pohick Creek:
  - Older development
  - Large Lakes
- Types of Treatment:
  - Quantity only (SWM)
  - Quality only (BMPs)
  - Quantity + Quality
  - None

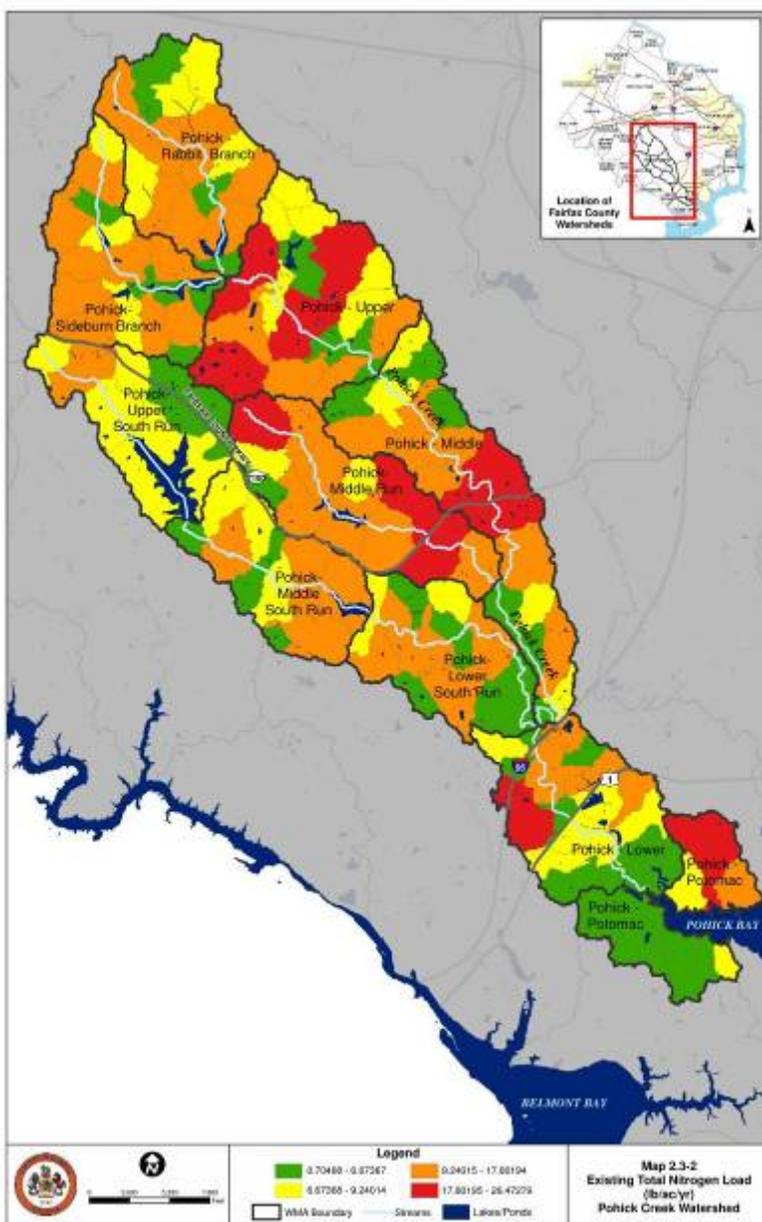


Total Nitrogen Loads



Total Phosphorus Loads





Total Suspended Solids



100-year Storm Inundation



# Subwatershed Ranking/Prioritization

- Purpose:
  - To provide a systematic means of planning management implementation *countywide* that will achieve Co. goals & objectives
- Utilizing:
  - Impact Indicators
  - Source Indicators
  - Programmatic Indicators

# Ranking Approach

## County Goals

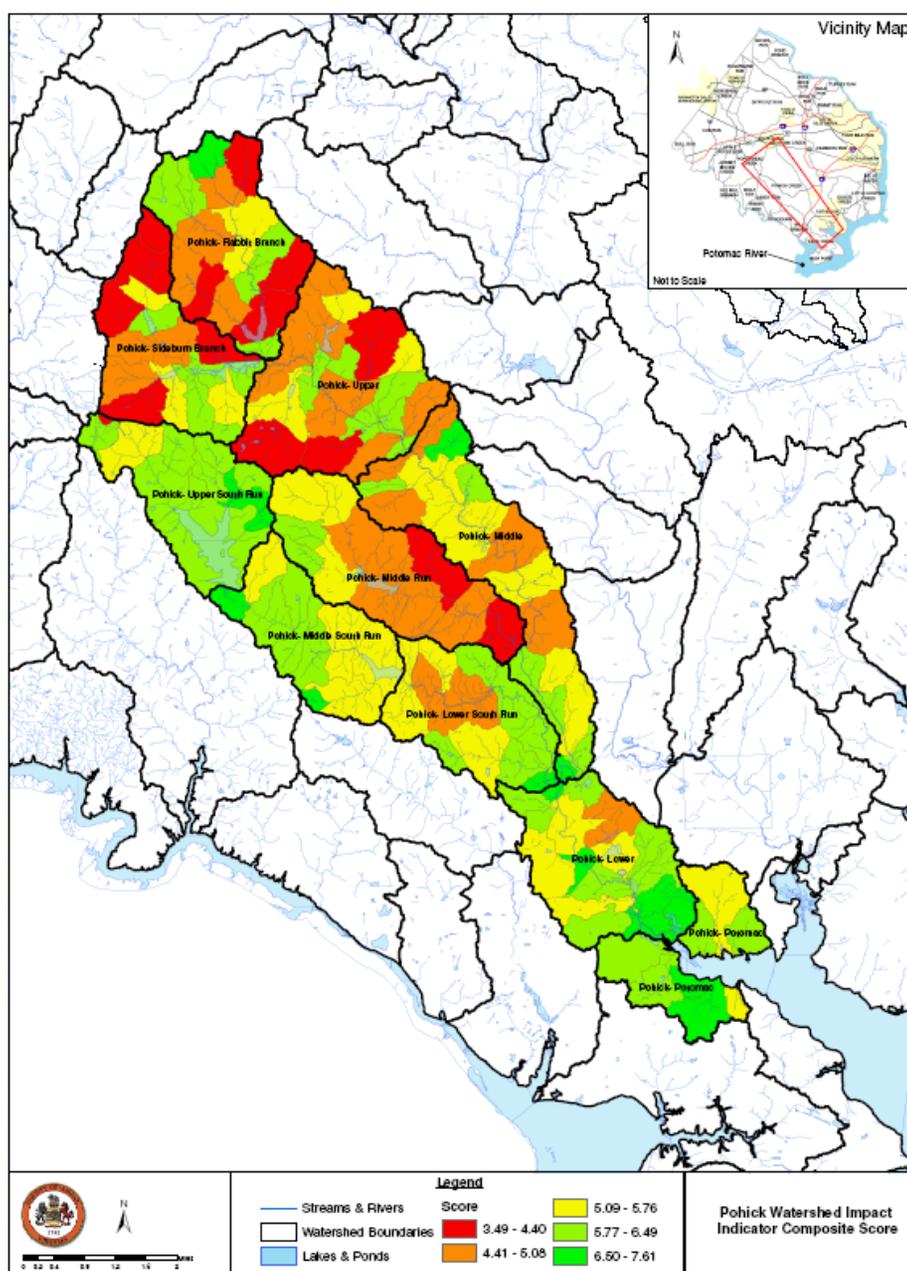
1. Improve & maintain watershed functions in Fairfax County, including water quality, habitat, and hydrology
2. Protect human health, safety, and property by reducing stormwater impacts
3. Involve stakeholders in the protection, maintenance and restoration of County watersheds

## County Objectives (5 categories)

- Hydrology
- Habitat
- Stream Water Quality
- Drinking Water Quality
- Stewardship

# Ranking Indicators

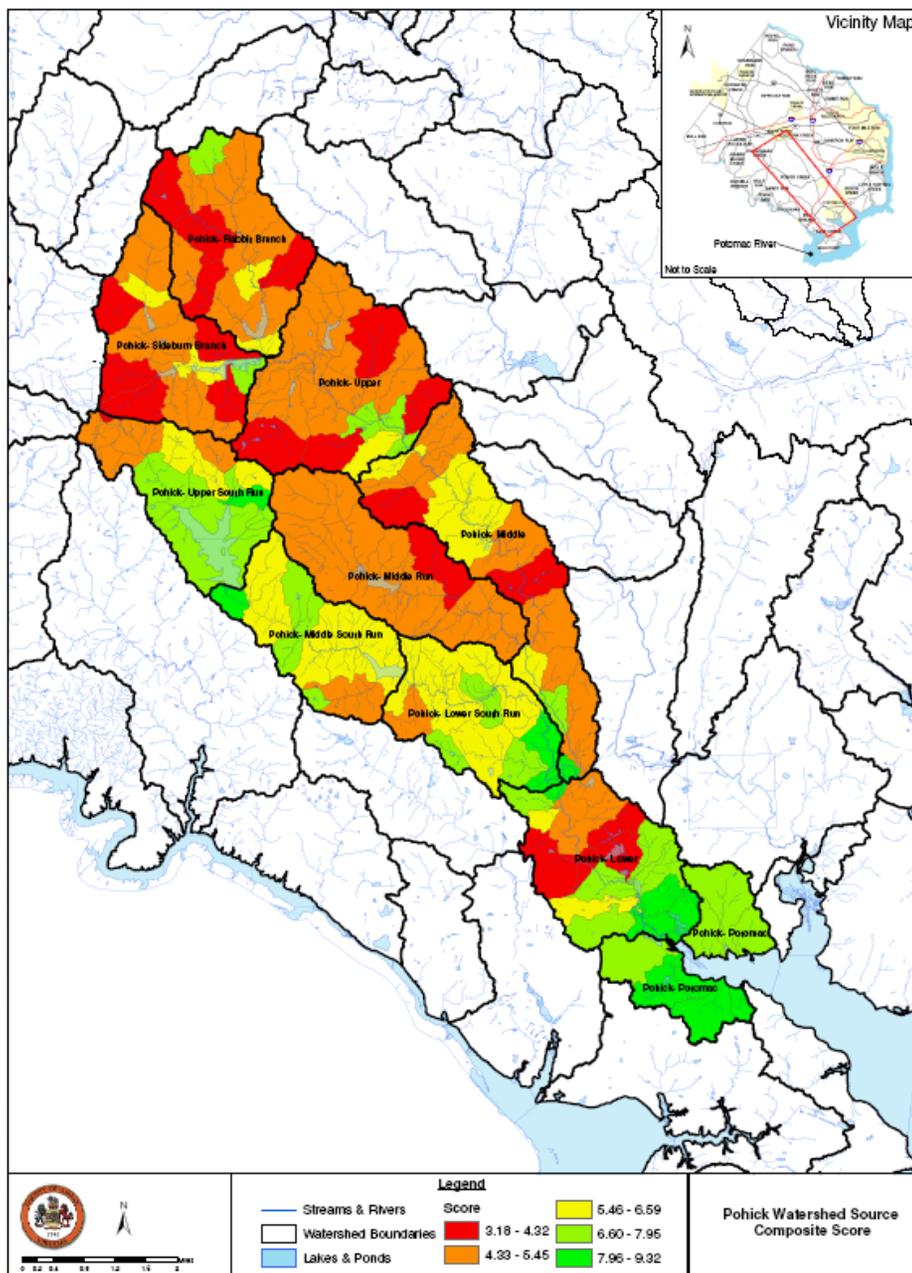
- Impact Indicators -19 indicators
  - Fish communities
  - Hydrology
  - Nitrogen loads
  - Flood complaints
- Source Indicators – 17 indicators (stressors)
  - channelized/piped streams
  - Impervious Areas
  - Hot Spot Investigations
  - Neighborhood Source Assessment
- Programmatic Indicators – 11 indicators
  - Low Impact Development
  - Subwatershed treatment type
  - Stream restoration



# Preliminary Impact Indicator Results

- Multiple Impact Indicators
- Composite Score tied to objectives
- Higher score = higher correlation to Co. objectives
- Results relative to Pohick Creek watershed
- *Data gaps – stakeholder input*





# Preliminary Source Indicators Results

- Multiple Impact Indicators
- Composite Score tied to objectives
- Higher score = higher correlation to Co. objectives
- Results relative to Pohick Creek watershed
- *Data gaps – stakeholder input*



# Summary

- Data to be used in the watershed planning process
- Conditions of the WMAs
  - Refinement of data
  - **Public input into areas of concern**
- Pohick Creek watershed conditions need to be compared to the rest of the County
- ***NEXT STEP***
  - ***Project Identification/Prioritization***

A close-up photograph of a dense field of blue and purple flowers, likely Virginia Bluebells, with vibrant green foliage. The flowers are in various stages of bloom, and the background is a soft-focus expanse of similar plants.

# **Pohick Creek Public Involvement Process**

---

Beth Offenbacher, Waterford, Inc.

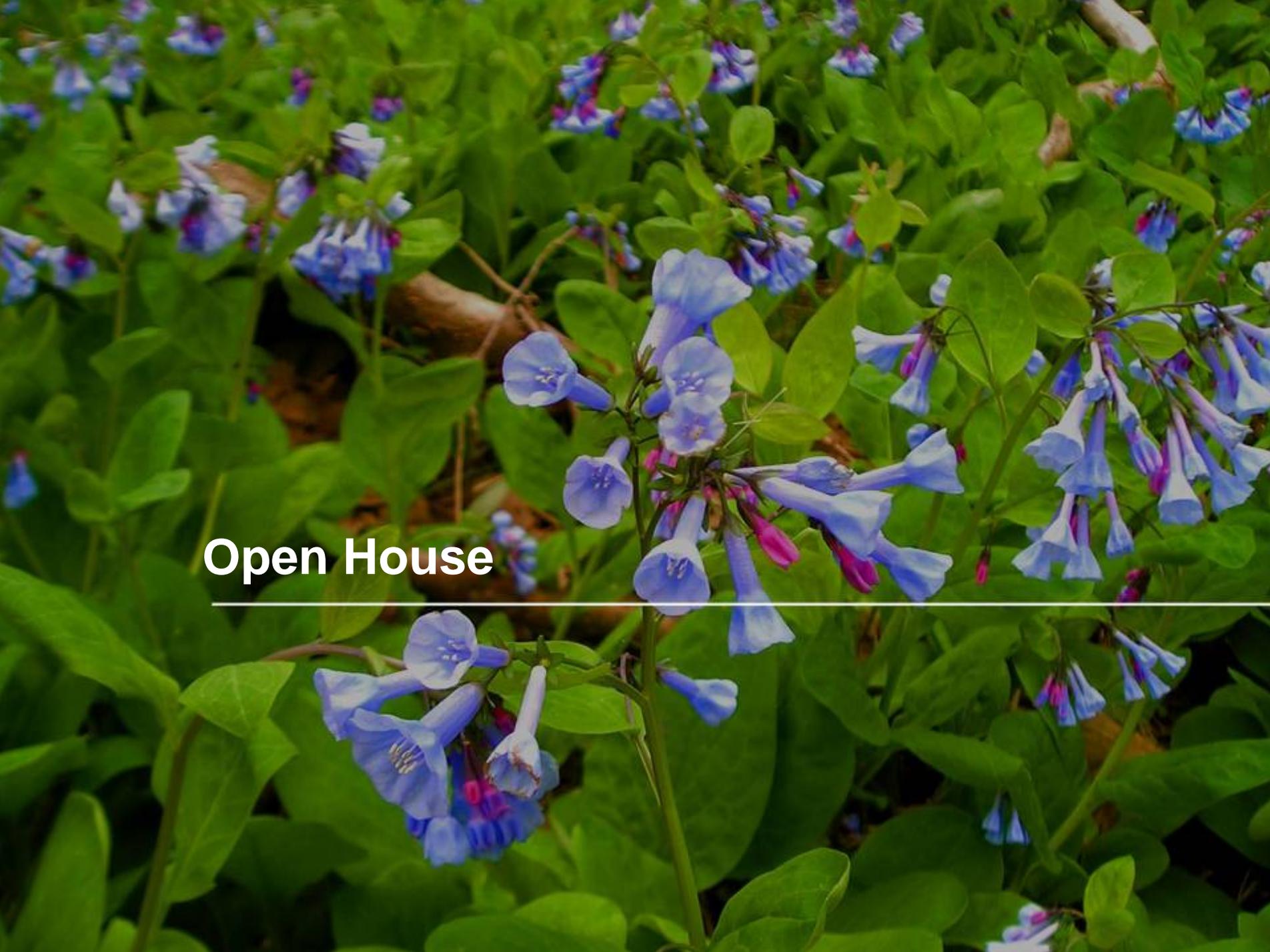
# Public Involvement Process

- Introductory and Issues Scoping Forum
- Watershed Advisory Group (WAG)
  - Approximately 20 individuals
  - Representing 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

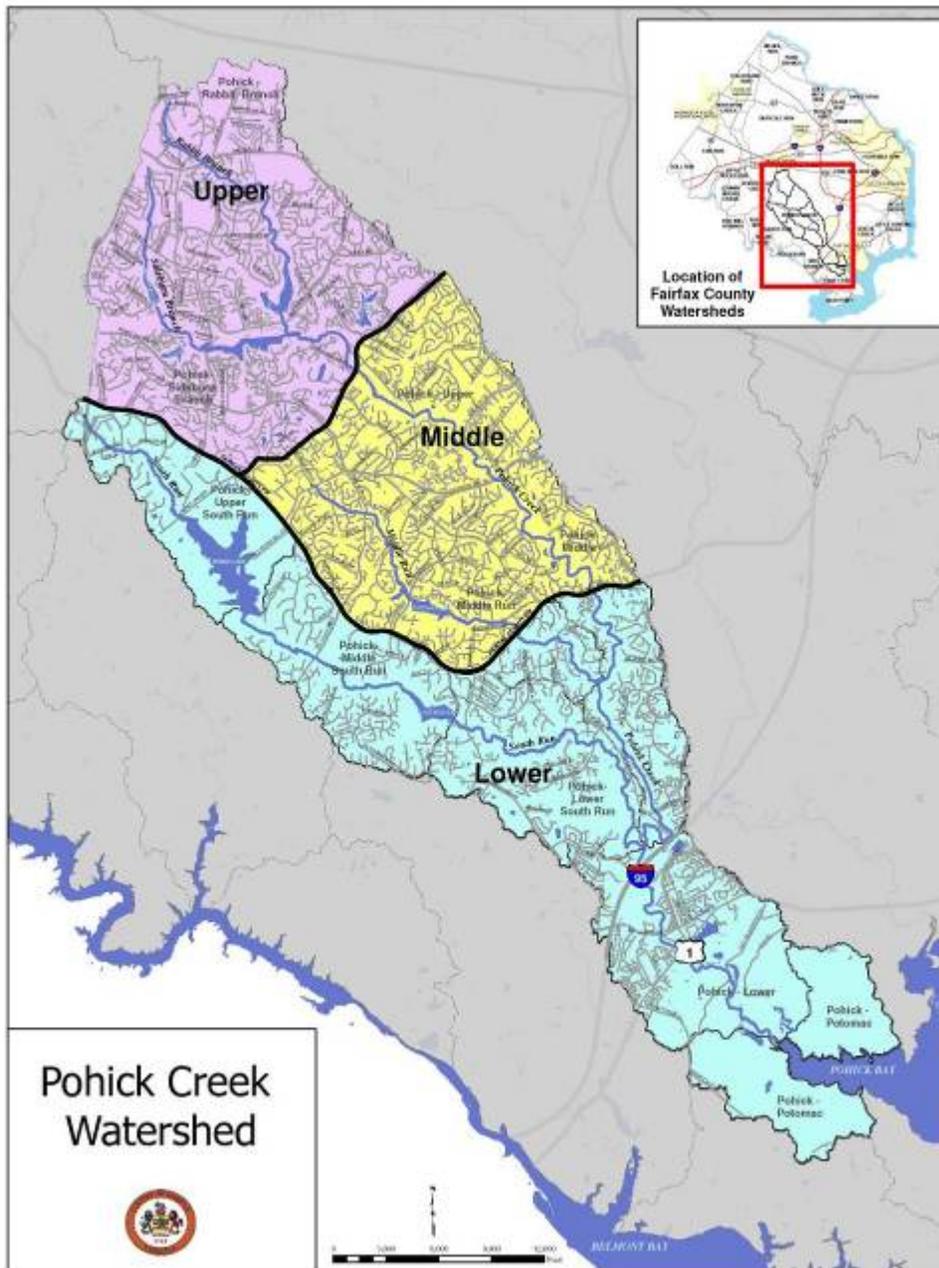
1. Join the Pohick WAG
  - Volunteer yourself or suggest others
2. Provide information
  - Neighbors, colleagues, friends
3. Participate in our Virtual Forum
  - [http://www.fairfaxcounty.gov/dpwes/watersheds/pohick\\_creek.htm](http://www.fairfaxcounty.gov/dpwes/watersheds/pohick_creek.htm)
4. Submit Comments or Questions
  - By Phone: 703-324-5500, TTY 711
  - By Email: [watersheds@fairfaxcounty.gov](mailto: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 a vibrant green, consisting of small, rounded leaves. The background is filled with more of the same plants, creating a lush, textured appearance. The lighting is bright, highlighting the colors of the flowers and leaves.

**Open House**

---



**Upper:**  
North of Parkway  
West of Burke Lake Rd.

**Middle:**  
North of Parkway  
East of Burke Lake Rd.

**Lower:**  
South of Parkway