Welcome to your
DEPARTMENT OF THE
ENVIRONMENT

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STORMWATER MANAGEMENT DIVISION

"Our Water. Our Future. Ours to Protect."

Western Branch Restoration Plan Public Meeting
January 28 , 2019

Welcome
from
Jerry Maldonado

Purpose of Meeting

- Review why watershed restoration plans are needed in Prince George's County.

- Inform the public of contents of the draft watershed restoration plan for Western Branch watershed.

- Answer questions on the draft plan.

Photo Credit: M-NCPPC / Cassi Hayden

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Speakers / Panelists

- ## Speakers
  - Adrianna Berk, Outreach Specialist, Tetra Tech
  - Mark Sievers, Environmental Engineer, Tetra Tech
  - Sam Stribling, Biologist/Assessment Specialist, Tetra Tech

- ## Technical Panelists
  - Jerry Maldonado, Section Head, DoE
  - Mark Sievers, Tetra Tech
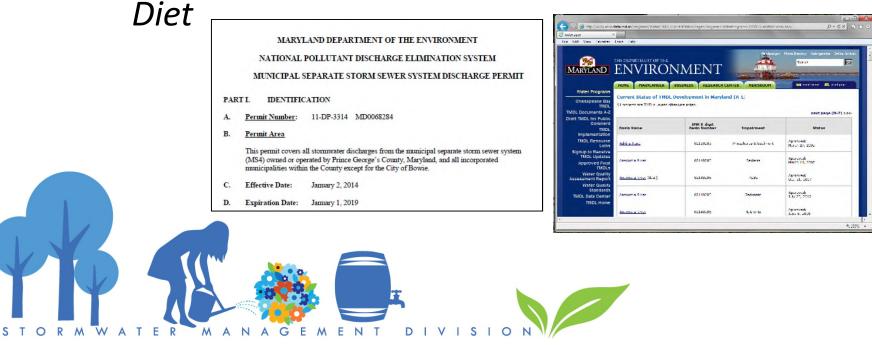 - Sam Stribling, Tetra Tech

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REGULATORY OVERVIEW

Two Regulatory Drivers

Under the Clean Water Act

1. Municipal Separate Storm Sewer System (MS4) Permit

2. Total Maximum Daily Loads (TMDLs) = *Pollution Diet*

What is an MS4?

Municipal Separate Storm Sewer System (MS4) = Conveyance system owned by a state, city, town, or other public entity that discharges to waters of the United States.

County's MS4 Regulated Lands
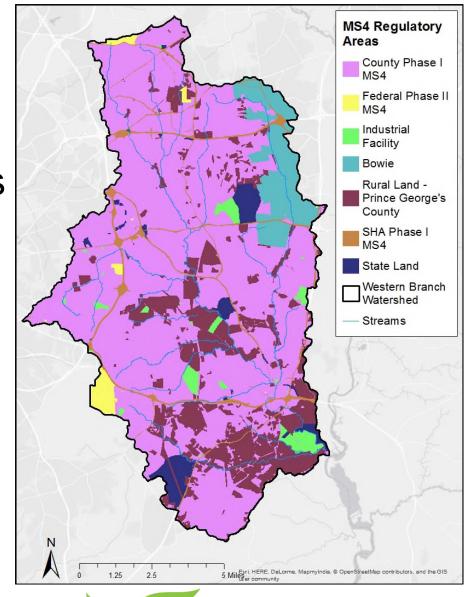
- ## Excluded properties
  - ## Federal
  - ## State
  - ## SHA
  - ## City of Bowie
  - ## M-NCPPC

MS4 Regulatory Areas
- County Phase I MS4
- Federal Phase II MS4
- Industrial Facility
- Bowie
- Rural Land - Prince George's County
- SHA Phase I MS4
- State Land
- Western Branch Watershed
- Streams

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Water Quality Impairments

Pollutants and Sources

- **Nutrients** from sanitary waste, fertilizers, and organic material
- **Sediment** from construction sites, bare soils, and eroding streambanks
- **Bacteria** from animal waste and sewer leaks and overflows
- **Trash** from littering
- **Toxics** from legacy contaminated sites

ALL can be contributed from urban stormwater

Pollution Diet (TMDLs)

- Addresses a single pollutant or stressor.

- Allocations issued to natural, point, and nonpoint sources.

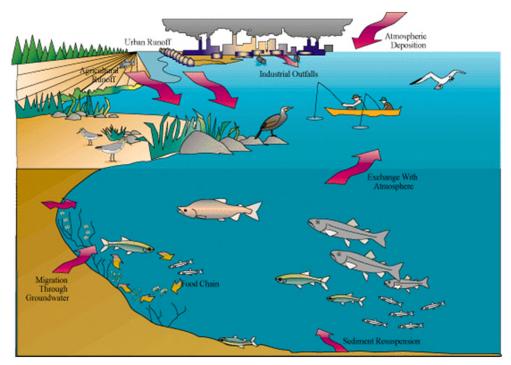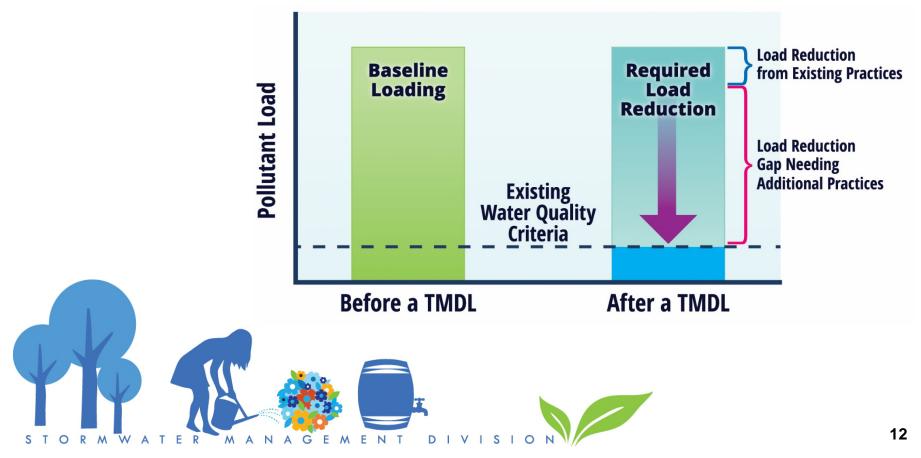TMDLs can be viewed as a pollution diet.

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What Is a Pollution Diet/TMDL?

- TMDL = Total Maximum Daily Load (Pollution Diet)

- The maximum amount of a pollutant that a water body can assimilate and still meet water quality standards and designated uses.

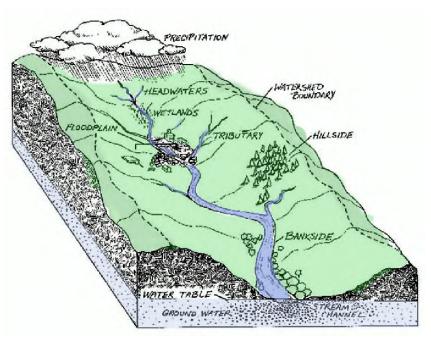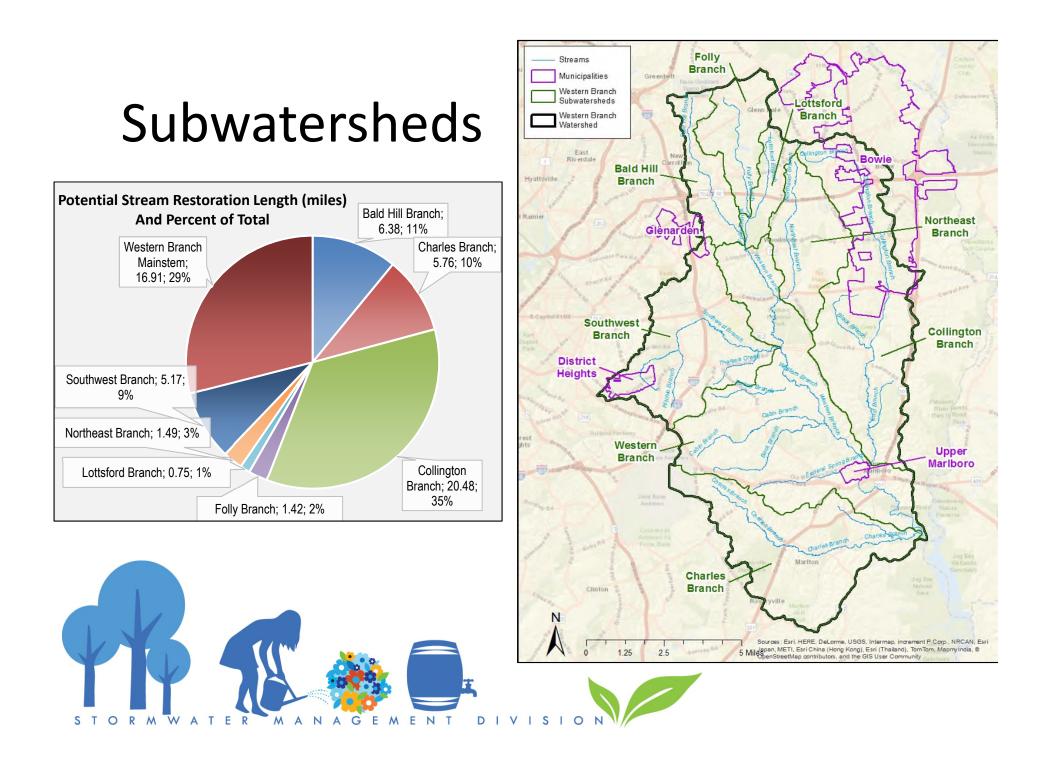STORMWATER MANAGEMENT DIVISION

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Watershed Mechanics

What Is a Watershed?

Watersheds are like sponges and drain like funnels . . .

- Land accumulates pollutants from urban, agricultural, and other areas.
- Whatever is on the land washes into the waterways directly or via storm drains.
- Appropriate land management practices can greatly reduce polluted runoff.

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Subwatersheds

Potential Stream Restoration Length (miles) And Percent of Total

- Bald Hill Branch; 6.38; 11%
- Charles Branch; 5.76; 10%
- Western Branch Mainstem; 16.91; 29%
- Southwest Branch; 5.17; 9%
- Northeast Branch; 1.49; 3%
- Lottsford Branch; 0.75; 1%
- Folly Branch; 1.42; 2%
- Collington Branch; 20.48; 35%

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Legend:
- Streams
- Municipalities
- Western Branch Subwatersheds
- Western Branch Watershed

Restoration Planning

County Goals

- Protect, restore, and enhance habitat for healthier ecosystems.

- Conduct restoration efforts with a balanced approach.

- Support compliance with regional, state, and federal regulatory requirements.

- Increase awareness and stewardship by the public and policymakers.

- Protect human health, safety, and property.

- Improve quality of life and recreational opportunities.

Curb cuts shunt runoff from roads and parking lots to pervious areas.

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County Objectives

- Protect land with critical habitat.
- Implement BMPs and programmatic initiatives.
- Protect downstream aquatic habitat and designated uses.
- Comply with regulatory requirements.
- Educate stakeholders on how to prevent pollution and how to get involved.
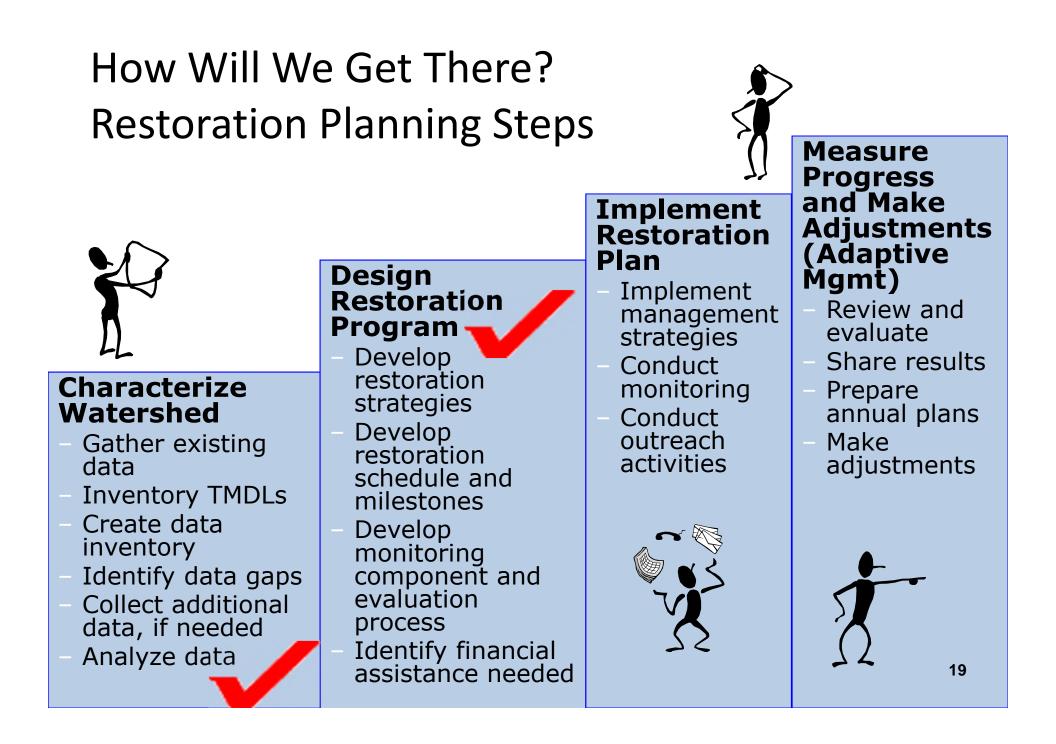- Integrate watershed protection/restoration into policy-making.

Swales and other bioretention practices filter runoff from roads and other impervious surfaces.

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How Will We Get There?
Restoration Planning Steps

Characterize Watershed
- Gather existing data
- Inventory TMDLs
- Create data inventory
- Identify data gaps
- Collect additional data, if needed
- Analyze data

Design Restoration Program
- Develop restoration strategies
- Develop restoration schedule and milestones
- Develop monitoring component and evaluation process
- Identify financial assistance needed

Implement Restoration Plan
- Implement management strategies
- Conduct monitoring
- Conduct outreach activities

Measure Progress and Make Adjustments (Adaptive Mgmt)
- Review and evaluate
- Share results
- Prepare annual plans
- Make adjustments
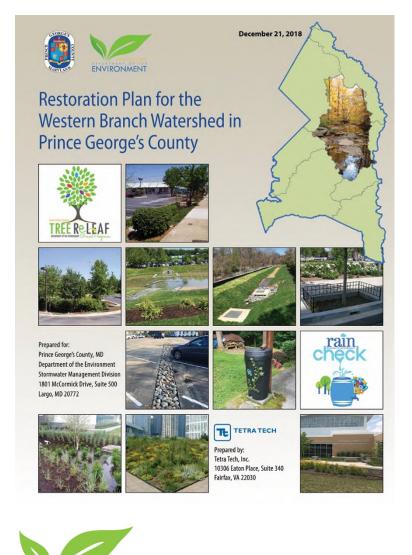
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Elements of Restoration Plan

- Introduction
- Watershed Characterization
- Water Quality Conditions
- Watershed Conditions
- Restoration Methodology Development
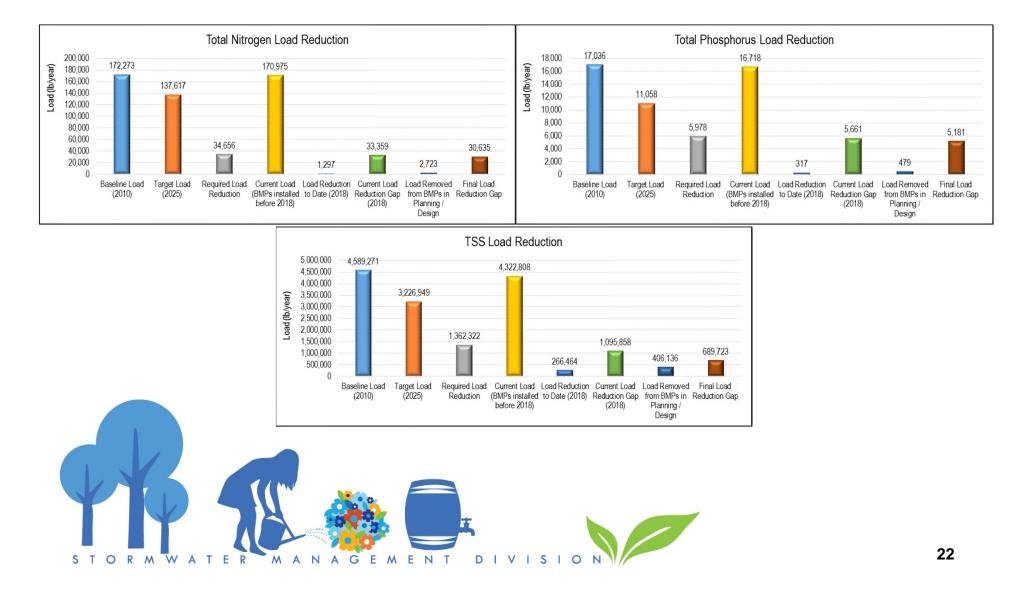- Restoration Activity Identification
- Tracking and Adaptive Management

December 21, 2018

Restoration Plan for the Western Branch Watershed in Prince George's County

Prepared for:
Prince George's County, MD
Department of the Environment
Stormwater Management Division
1801 McCormick Drive, Suite 500
Largo, MD 20772

Prepared by:
Tetra Tech, Inc.
10306 Eaton Place, Suite 340
Fairfax, VA 22030

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Load Reduction Targets

Load Reductions Needed

Total Nitrogen Load Reduction

Total Phosphorus Load Reduction

TSS Load Reduction

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Restoration Strategies & Activities

Determine Restoration Strategies

- Keep effective current and planned BMPs and programmatic initiatives
  - Rain Check Rebate Program, Alternative Compliance Program
- Find restoration opportunities
- Engage the public

Redirecting downspouts from impervious areas to landscaped features can reduce runoff volume.

Rain Garden Signage

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Existing County Programs

- **Stormwater-Specific Programs**
  - Stormwater Management Program
  - Clean Water Partnership
  - Rain Check Rebate and Grant Program
  - Alternative Compliance Program
  - Countywide Green/Complete Streets Program
  - Street sweeping, stormdrain stenciling, litter control, illicit discharge detection and elimination, cross-connections elimination
- **Tree-Planting Programs**
  - Tree ReLEAF, Tree demonstrations, Arbor Day Every Day
- **Public Education Programs**
  - Master Gardeners, Transforming Neighborhood Initiative, flood awareness, animal management

Future BMP Activities

- Examples include:
  - Retrofit of existing County dry ponds.
  - New BMPs on County property.
  - New right-of-way BMPs through County programs.
  - Partner with schools, libraries, churches, fire and police stations, hospitals, etc. to install new BMPs.
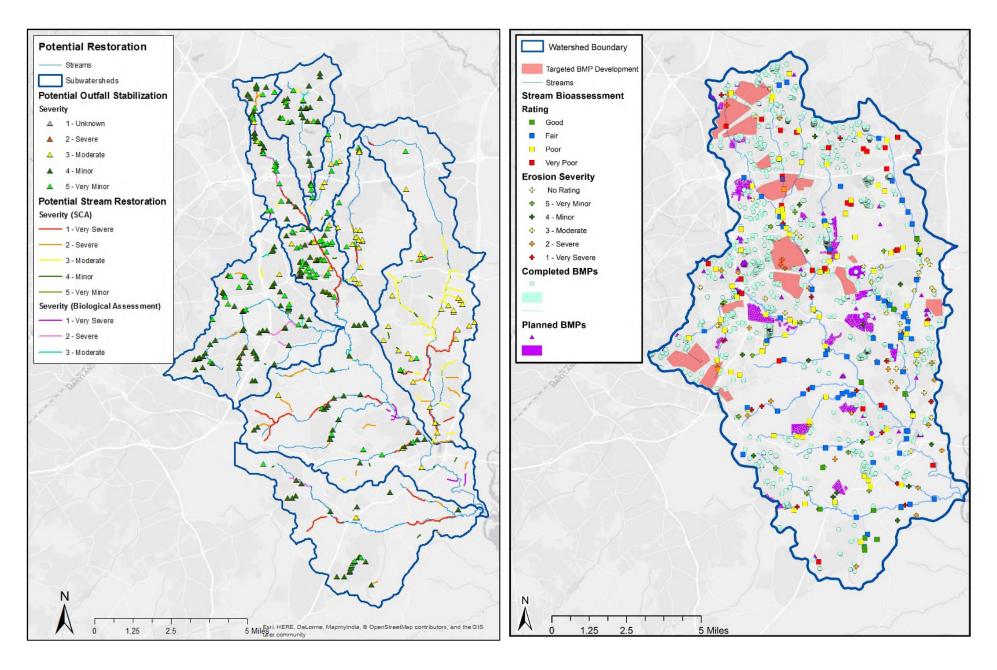

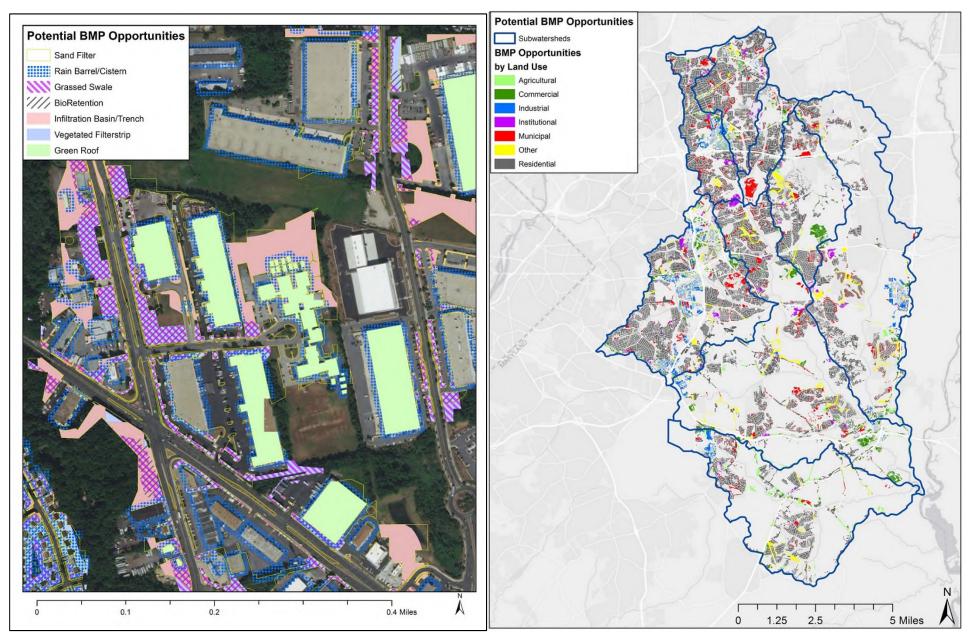*Above: Bioretention in a right-of-way makes this a green street. Below: Permeable pavement along parking lot.*

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Potential BMP Opportunities

Potential BMP Opportunities

Refining BMP Opportunities

- BMP opportunities will be further reviewed
  - Identify priority areas
  - Identify placement conflicts (e.g., utility)
  - Determine drainage area
  - Identify potential implementation partners
  - Perform field evaluation
  - Prioritizing opportunities

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BMPs Co-Benefits

BMPs are not just for load reductions!

- Air quality
- Biodiversity/habitat
- Education
- Energy efficiency
- Flood mitigation
- Groundwater recharge
- Property values
- Recreation

Photo Credits: Clean Water Partnership

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Tracking Progress

Tracking Progress

Three Main Activities

1. Track with required annual MS4 report
   - Document restoration BMP installation and activities such as outreach

2. Environmental monitoring
   - Biological, physical habitat, and water quality

3. Geo-referenced database
   - Project locations, type, amount of imperviousness surface treated, etc.

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How Will Biological Monitoring Be Used to Track Changes?

- Round 4 biological monitoring
- County will look for **substantial reductions** in "percent biological degradation"
- Can start to think about setting goals for reduced pct. degradation
- Interpret monitoring and assessment results in context of
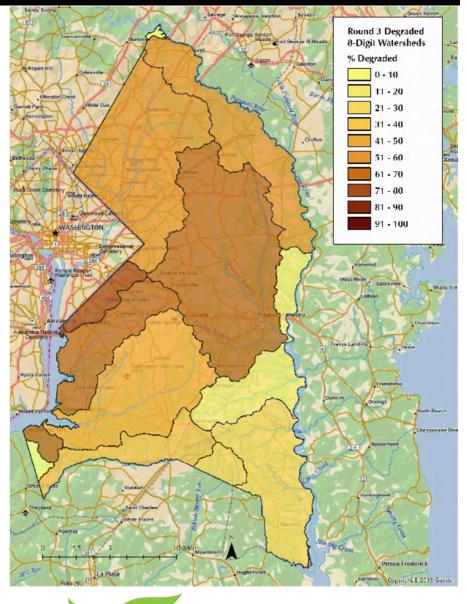 - Improved habitat and water chemistry conditions
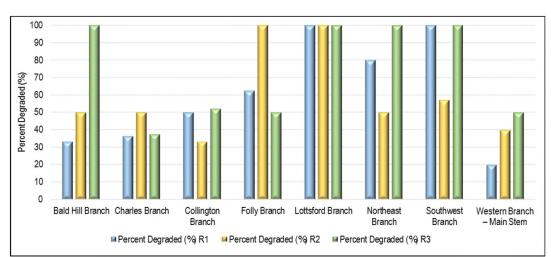 - Effectiveness of overall restoration activities (different from implementation effectiveness)

Watershed Status, Biological Condition (2017)

Round 3 Degraded
8-Digit Watersheds
% Degraded

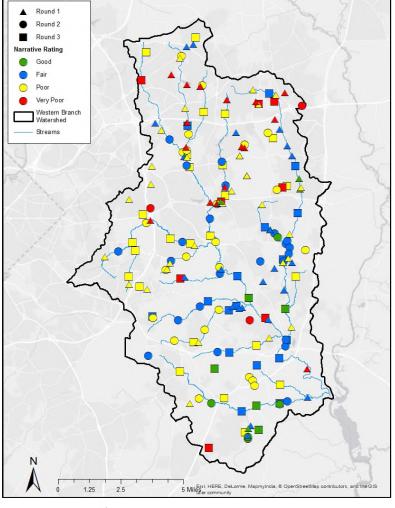| % Degraded |
|---|
| 0 - 10 |
| 11 - 20 |
| 21 - 30 |
| 31 - 40 |
| 41 - 50 |
| 51 - 60 |
| 61 - 70 |
| 71 - 80 |
| 81 - 90 |
| 91 - 100 |

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Biological Monitoring Results

Water Quality Monitoring

- Conducted in a priority subwatershed.
  - County will ask permission from MDE to move the require NPDES monitoring locations in Bear Branch to the newly selected priority area.

- Monitor total nitrogen, total phosphorus, TSS, BOD, and *E. coli*.

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Adaptive Management

- Learn and change as we go.
- After strategies are in place, evaluate changes in:
    - Pollutants loads
    - Biological integrity
- Advances in technology will provide more effective, smaller, cheaper reduction measures.
- Multiple bottom-line benefits.
- Determine needs for additional controls.
- Continue monitoring and evaluation.

Taken from Williams et al. 2007

What Is Next?

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Your Role in Restoration

- Become informed.
- Support implementation by preventing stormwater pollution.
  - Pick up after pets, plant trees, install rain barrels, leave grass clippings on lawn, don't litter, etc.
- Use County Click (http://countyclick.princegeorges countymd.gov/).

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Stay Informed

- Subscribe to DoE updates on Twitter, Instagram, and Facebook for information about events and how to get Involved

- Lots of DoE programs
  - Comprehensive Community Cleanup Program
  - Tree ReLEAF Grant Program
  - Rain Check Rebate Program
  - And more!

- DoE has speakers for meetings & interactive exhibits.
  https://www.princegeorgescountymd.gov/351/Community-Outreach

rain check
SLOW IT DOWN.
SPREAD IT OUT.
SOAK IT IN.

PRINCE GEORGE'S COUNTY
TREE ReLEAF
DEPARTMENT OF THE ENVIRONMENT
Grant Program

PGC Department of the Environment
September 19 ·

The beautiful Anacostia park and the abundance of nature that surrounds! Look whats in your backyard, Come to the River and take a nature walk today at Anacostia park! #ComeToTheRiver #AnacostiaRiver #Nature #Environmental #YearoftheAnacostia

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We want to hear from you & how your quality of life could be improved in connection to local waterways! Each selected participant will get $50 Visa gift certificate, meal & free childcare (during meeting). Sign up at surveymonkey.com/r/PGCfocusgrou...

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pgcsprout   Follow

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The Department of the Environment (DoE) works for a healthy, beautiful and sustainable Prince George's County.
bit.ly/DOE2018summit

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Questions?

- Contact:

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    301-883-5943

    jgmaldonado@co.pg.md.us

www.princegeorgescountymd.gov/sites/stormwatermanagement

Thank you for attending!

Please remember to sign in if you have not done so already and turn in your comment forms!

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