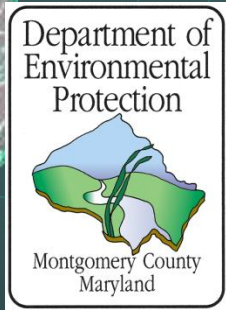


# Reducing Water Quality Impacts through Community Engagement



**Ryan Zerbe**

**Montgomery  
County, MD**

**Watershed  
Management  
Division**



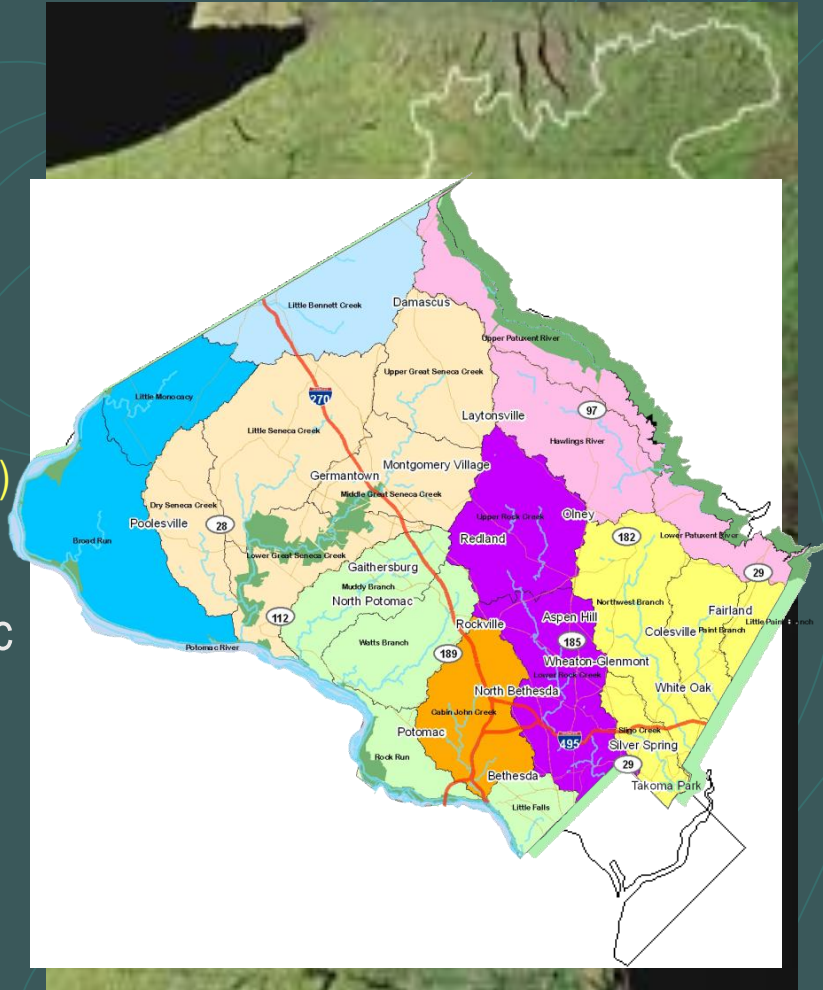


# Presentation Outline

- County Overview and Stormwater Permit
- Focusing Efforts
  - Priorities for Implementing Behavior Change
  - Small Watershed Restoration Approach – Breewood
- Outreach and Community Engagement
  - RainScapes
  - Chesapeake Bay Trust Grant
  - Community Clean Water Summit
  - Trash Free Potomac Treaty
  - Watershed Group Capacity Building
  - Outreach Events and Materials
- Developing a Volunteer Program
- Lessons Learned

# Montgomery County, MD

- 500 sq. miles
- 970,000 people
- Second only to Baltimore City within MD in average people per square mile
- 184 languages spoken - Spanish, Chinese (Mandarin), Korean, Vietnamese, Amharic (Ethiopia)
- About 12% impervious surface overall
- About the size of Washington DC – 8500 ac
- Over 1,500 miles of streams
- Two major river basins:
  - Potomac
  - Patuxent
- Eight local *watersheds*



**Impervious:** Not allowing water to soak through the ground.

# Watershed Management Division

## Stormwater Permit Coordination

- Reporting, Monitoring, and Watershed Outreach

## Stormwater Management Facilities

- Inspections and Maintenance

## Watershed Restoration

- Stormwater Retrofits and Stream Restoration
- RainScapes

## Construction Management

- Oversees project construction
- Administers contracts and procurement



# Meeting the County's stormwater permit requirements:

- Restore Local Streams and Watersheds
- Reduce Trash entering the Potomac and Tributaries
- Increase Public Outreach and Stewardship
- Requires Annual Report on Progress
  - Reduce pollutants to meet applicable water quality standards (Total Maximum Daily Loads--TMDLs)
- Requires additional stormwater management for **20 percent** of impervious surfaces (4,292 acres = 6.7 square miles).

Nearly 1.5 times the size of Pottstown, PA!

Equivalent to 32,912 football fields!



# Stormwater is the only source of pollution that is increasing to the Chesapeake Bay

- Reduce stormwater volume
- Manage pollution from urban sources
  - **Bacteria** - (pet waste, wildlife, and sewer leaks)
  - **Nutrients** – (fertilizers: nitrogen and phosphorus)
  - **Sediment** – erosion
  - **Trash**
- Involve the Community to Influence Behavior Change

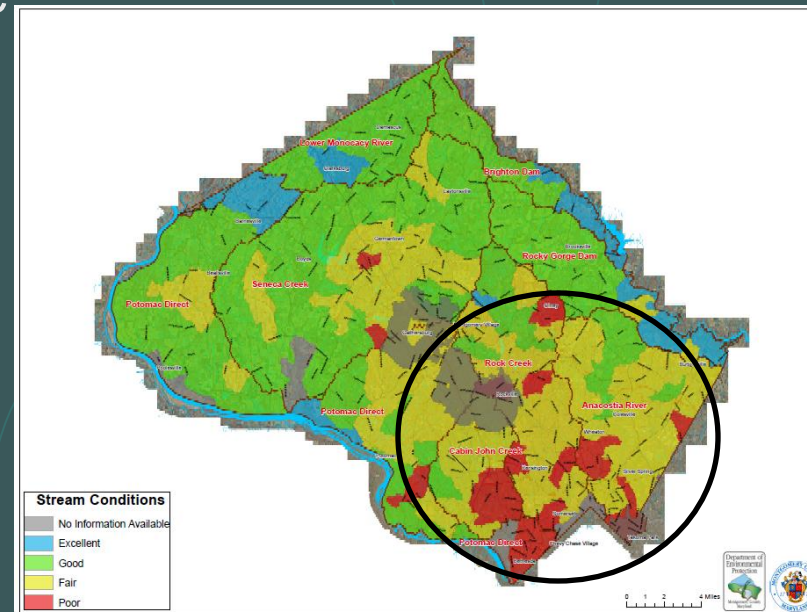
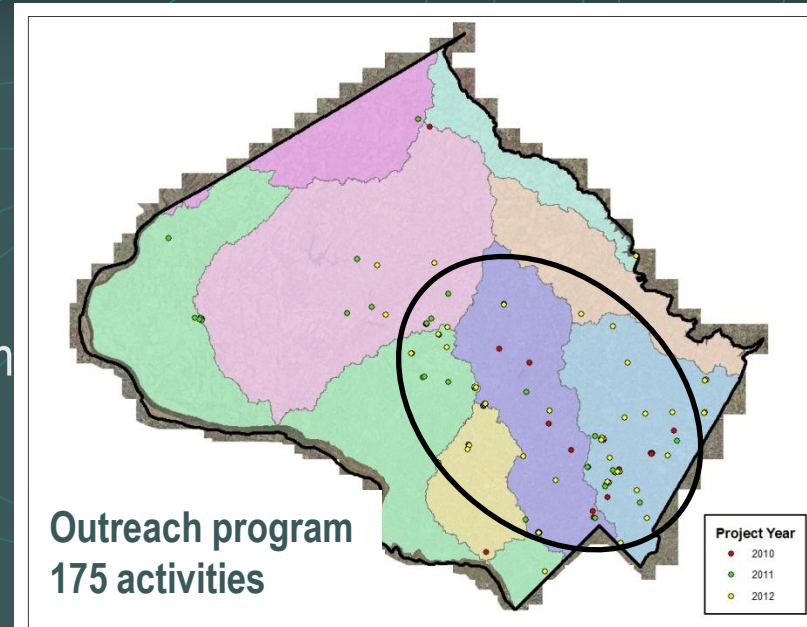


**85%** of trash found in Anacostia streams before Bag Bill consisted of plastic bags and soda bottles

# Focusing Efforts

- Majority of outreach focused in the most impacted County watersheds
  - Anacostia and Rock Creek
- Link events to Capital Improvement Program (CIP) and RainScapes Neighborhoods
- Increase number of residents reached
  - More than 300% from FY 10-FY13
- Document Awareness and Behavior Change
  - Pre- and Post-Project Surveys
- Locate events on GIS maps for Annual Reports

## Challenge – Linking Outreach to Restoration Efforts and Measuring Change



# Water Quality Protection Charge

Property Type	Charge Amount
Apartments and condominiums (Multi-family residential)	Charge based on amount of impervious surface
Associated Non-Residential (Any property that is not a residential property, including commercial, retail, common areas of homeowner associations, churches, etc.)	Charge based on amount of impervious surface within a residential drainage area
Single family detached homes	<b>\$92.60</b>
Single family attached (townhomes)	<b>\$30.56</b>

\*Many other jurisdiction have water quality protection charges much higher than Mont. Co.



# 8 Priorities for Implementing Behavior Change

*\*Vital roles for watershed and community groups*

## Most cost-effective reduction approach:

- Bacteria from urban sources
  - *Picking up pet waste outreach\**, installing pet waste stations, and creating incentive program for installations
- Trash and litter
  - *Advertising campaign\**, increased enforcement, and public and private property staff training

## Provide additional reductions:

- Lawn fertilizers
  - *Distributing outreach materials\**, providing landscaper training and homeowner assistance
- Tree plantings and establishing stream buffers
  - *Advertising and coordinating tree planting projects\**



# 8 Priorities for Implementing Behavior Change

## *\*Vital roles for watershed and community groups*

- Increase awareness of Stormwater management
  - *Installing signs, providing community awareness\*, and supporting tours of Low Impact Development (LID) practices\**
  - *Developing a Geocaching Stormwater Tour of Features & Projects*
- Reduce impervious surfaces
  - *Implementing campaign to encourage pervious replacement of existing impervious surfaces\**
- Establish the Stream Stewards program
  - *Participating as a volunteer and creating a peer-to-peer presence at community events\**
- Increase residential runoff management
  - *Promoting community adoption of RainScapes (LID) practices\**
  - **Increase DEP resources and workshops**



# RainScapes

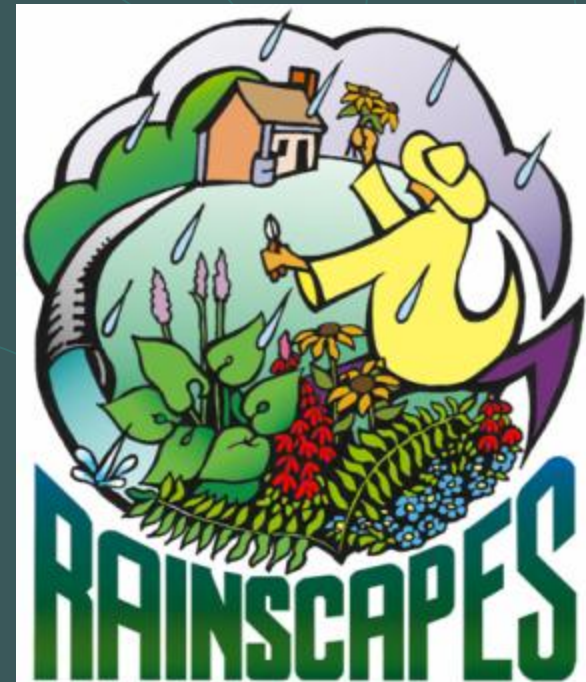
## Rainscapes Rewards Rebates

- Rain Gardens
- Conservation Landscaping
- Urban Tree Canopy
- Permeable Pavers
- Green Roofs
- Water Harvesting
  - Cisterns
  - Rain Barrels
- Dry Wells

## Targeted Neighborhoods

## Rainscapes for Schools (pilot program)

- High School Growing Program
- Projects at Schools: Canopy tree planting, Conservation Landscapes & Rain Gardens



# RainScapes Rewards

## *Incentive Program*



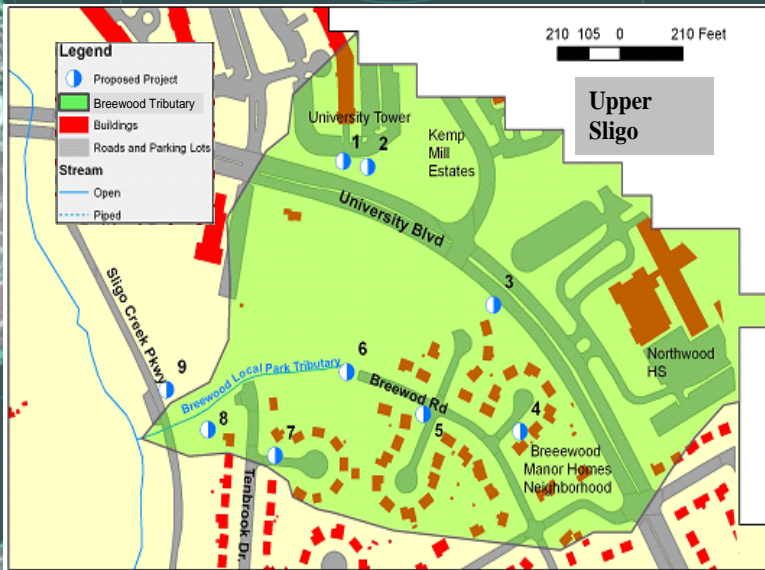
- **Rebates for single family residences:**
  - \$2,500 per property, with lifetime project caps
- **Rebates for multi-family/commercial / institutional:**
  - \$10,000 per property, with lifetime project caps



# Small Watershed Restoration Approach

## Breewood Tributary of Upper Sligo Creek Community Description

- Approximately 60 acres
- 33% imperviousness
- Diverse Community
- Local High School
- No HOAs
- Presbyterian Church
- Mixed Use – Single Family Homes and High Rise Apartments



- Low Impact Development (LID)
  - Green Streets Stormwater Retrofits
  - RainScapes Neighborhood
  - Parking lot and tree box retrofits
- Stormwater Wetland Retrofit
- Stream Restoration
- Environmental Outreach and Litter Reduction
- Local Park Improvement – Weed Warriors
- Biology, flow, and water quality monitoring



Contractor demonstrating sampling equipment during cleanup event

# Tools Utilized – Making Connections

- Direct Mailings
- Flyers & Posters
- Reminder cards
- Street signs/Yard Signs
- County Cable
- My Green Montgomery & County website
- Press Releases
- Community Bulletin Boards
- Public Meetings - Initial, 30%, 60% & 90% designs
- Facebook, Twitter, Listserves
- Schools
  - Backpack Program
  - Ecology Club
  - Cross Country Team
- Local Watershed Group - Door to Door & Community Tour
- Volunteer Center – SSL Hrs
- Church Program
- Camp Ahava & Kemp Mill Swim Club
- Cleanup days & Invasive removals

Initial response ~4% (Direct Mailing) – after ~36% participation

# Outreach and Community Engagement

## *Chesapeake Bay Trust Grant*

- Focus on managing runoff from residences
- Good Neighbors Outreach program
  - Commission on Common Ownership Communities
- Realtors Stormwater 101 Workshop
  - Greater Capital Area Association of Realtors
    - 2 workshops
    - Professional Credits
- World of Montgomery
  - Diversity
  - Office of Community Partnerships





# Outreach and Community Engagement

- *First year (2011) partially funded through CBT grant*
- Community Clean Water Summit Partners
  - Maryland Sea Grant (Year One)
  - Cities of Gaithersburg and Rockville
  - Montgomery County Parks
  - Interstate Commission on the Potomac River Basin
- Pre- and Post-Summit Surveys
- Eventbrite Registration Process
- Advertising
- Donations – Food and Prizes
- Year One: Watershed Groups
- Year Two: Add Volunteer Involvement
- Year Three: Washington Suburban Sanitary Commission



2ND ANNUAL COMMUNITY  
**Clean Water Summit**



- Meet local watershed groups
- Join in the fun of keeping streams clean
- **WIN PRIZES**— Like a REI 3 Season Tent.  
(Must be registered to attend & present to win)

Thank you!



**TAKE PRIDE IN HEALTHY STREAMS—JOIN US!**



Date: March 3rd, 2012 (Snow date March 11th – same time)  
Time: 8:30am- 3:30pm  
Where: Silver Spring Civic Building  
1 Veterans Plaza, Silver Spring, MD  
**To register:** <http://cleanwatersummit.eventbrite.com>

# Outreach and Community Engagement

- Trash Free Potomac Treaty
  - Regional effort led by Alice Ferguson Foundation
  - Annual Potomac River Watershed Clean Up
- Radio spots—Fall 2011 (50 ads)
- Ride-on Bus Transit (160 ads) and Bus Shelters (190 ads)
  - Fall 2011, Spring 2012, Fall 2012 and Spring 2013
- Posters to Schools, Libraries, Recreation centers
- Need follow up surveys to determine impact
  - planned for FY13



# Outreach and Community Engagement

- Watershed Group Capacity Building
  - DEP Contract with Interstate Commission on the Potomac River Basin
- Watershed Group Support and Trainings
  - 2011/2012 Chesapeake Watershed Forum
  - Train the Trainer Workshops
  - Surveyed Needs
  - River Network Assessment Tool
- Hands-on projects
  - Conservation Landscaping Demonstration Projects
  - Storm drain Marking
  - Pet Waste Management Pilot



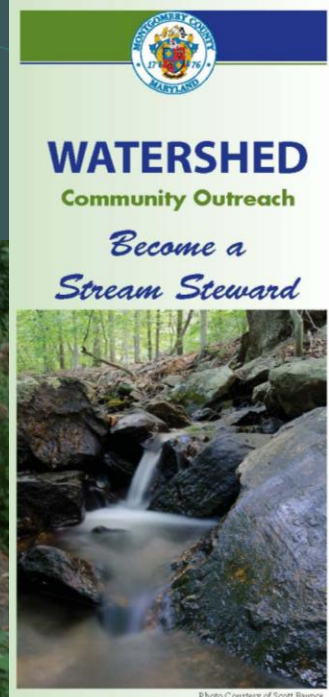
Geneva Day School Demonstration Garden

Outreach Events	Attendance	By the numbers (increases in knowledge)
<b>Community Events</b>	175 events over the course of FY10-FY13 >5 events per month Direct contact with >17,000 residents - face to face interaction	> 300% increase in Community Presence since FY10
Clean Water Summit	360 residents attended from FY11 and 12 500-1000 projected for FY 13.	FY11: 54% increase in knowledge of H2O groups (pre- to post-Summit) 41% increase in knowledge of county programs FY12: 24% changed their actions or behaviors 76% encouraged others to get involved.
Watershed Group Capacity Building Contract	43 – Residents and watershed group members attended two Conservation Landscaping training 7 Groups participated in River Network Tool 3 New Watershed groups Created 2 Groups Revitalized	Increased Activity in all Watershed groups
World of Montgomery Festival	2500 residents at event, >600 at DEP tent	Large discrepancies in knowledge: 62% knew storm drains flow untreated to streams Yet only 12% knew what local watershed they lived in
Good Neighbors Speaker Series	120 HOA Reps at Commission on Common Ownership of Communities (CCOC) mtg	8 interested in County presentation to HOA 4 presentations conducted in 2011
Realtors Prof. Credit Workshops	56 local real estate professionals attended two workshops	89% increase in knowledge of stormwater issues 75% comfortable pointing out SWM facility to clients 90% comfortable relaying RainScapes info to clients
Faithfully Picking up the Potomac	Joint effort of 3 watershed groups >50 attended workshop in FY 11 >75 attended workshop in FY 12	3 faith based organizations participated in FY 11 8 faith based organizations participated in FY 12

# New for FY12: Volunteer Program

## *Reaching Beyond the Choir*

- Mission
- Structure
- Policies and procedures
- Measurable goals
- Tracking system
- Training modules
- Implementing program



# Going forward:

- 2 New Outreach Planners
- New DEP Logo & Branding Contract
- New interactive website & increased social media
- Community Surveying – FY13
- RainScapes Marketing Plan – FY 13
- Increase efforts for Watershed group capacity building
  - Strategic Planning
  - Volunteer Recruitment
  - Marketing
- Diversity Summit
- Anti-Litter initiative - White Oak Community

# Lessons Learned over three years

- Good, solid, well-thought out planning is key
  - Don't jump in blind-folded!
- Spend the time and do the background research
  - What are your program goals and resource limitations?
  - What are expected deadlines?
  - Who is your audience? Ask around
- Look beyond the usual suspects!
- Pursue partners and share organizational responsibilities
- Identify and pursue grant funds
- Be Adaptable!
  - Ask questions early of your audience, your stakeholders, and your partners
  - Don't take an authoritative approach—listen to your stakeholder groups
  - Be open to modifying your approach if/when needed
- Never Assume!

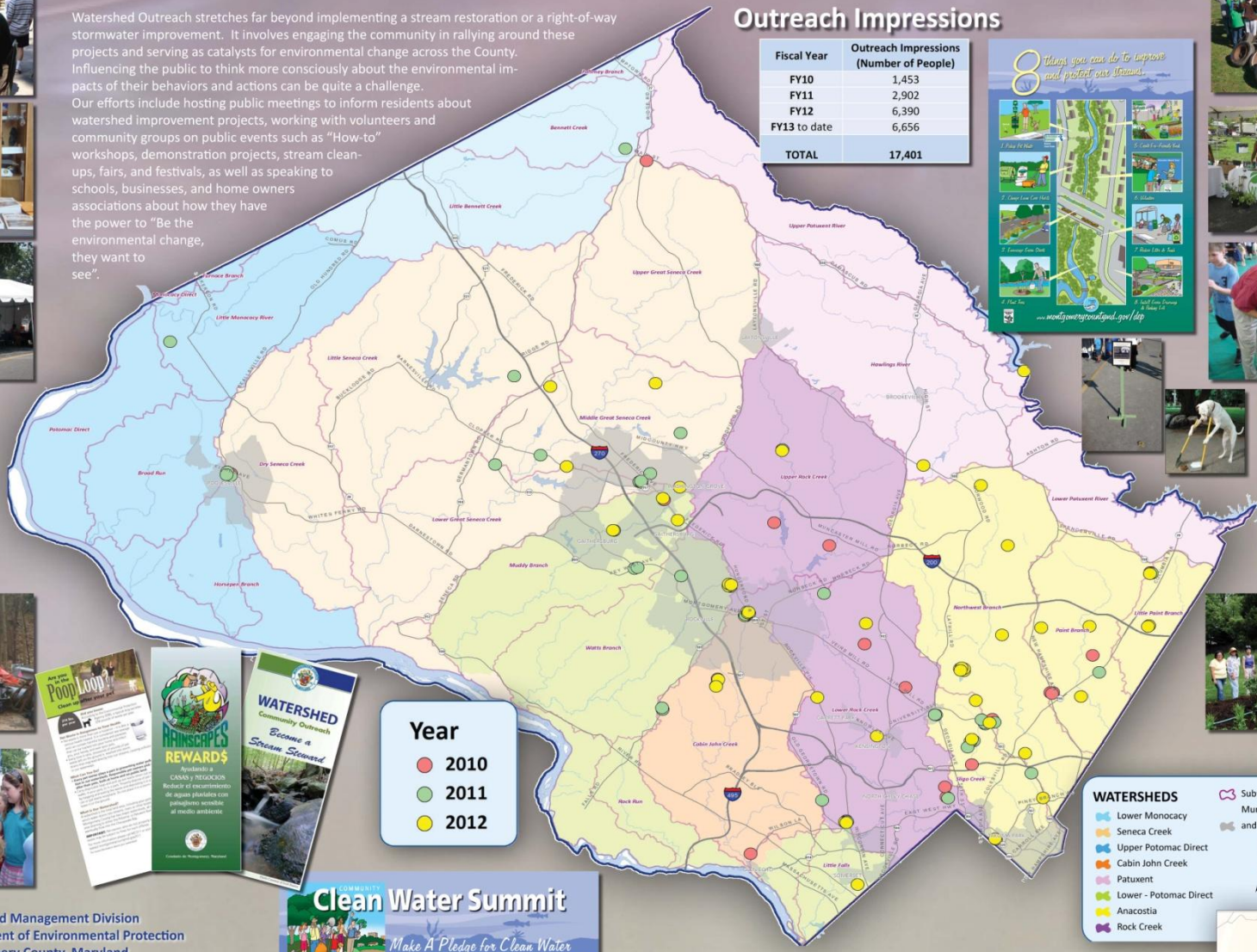
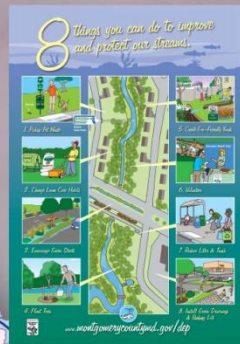
# WATERSHED OUTREACH in Montgomery County

## Reducing Water Quality Impacts through Community Engagement

Watershed Outreach stretches far beyond implementing a stream restoration or a right-of-way stormwater improvement. It involves engaging the community in rallying around these projects and serving as catalysts for environmental change across the County. Influencing the public to think more consciously about the environmental impacts of their behaviors and actions can be quite a challenge. Our efforts include hosting public meetings to inform residents about watershed improvement projects, working with volunteers and community groups on public events such as "How-to" workshops, demonstration projects, stream clean-ups, fairs, and festivals, as well as speaking to schools, businesses, and home owners associations about how they have the power to "Be the environmental change, they want to see".

### Outreach Impressions

Fiscal Year	Outreach Impressions (Number of People)
FY10	1,453
FY11	2,902
FY12	6,390
FY13 to date	6,656
<b>TOTAL</b>	<b>17,401</b>



**Year**  
 ● 2010  
 ● 2011  
 ● 2012

**WATERSHEDS**

- Lower Monocacy
- Seneca Creek
- Upper Potomac Direct
- Cabin John Creek
- Patuxent
- Lower - Potomac Direct
- Anacostia
- Rock Creek

Subwatersheds  
 Municipalities  
 and Urban Centers

N





# Questions?



Save the  
Streams for  
our Future!!

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