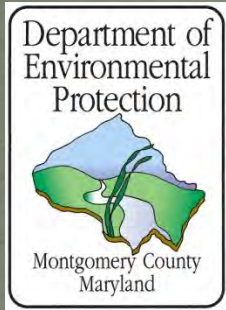


# *Educating & Engaging One Million Residents*



**Ryan Zerbe**

**Montgomery  
County, MD**

**Watershed  
Management  
Division**



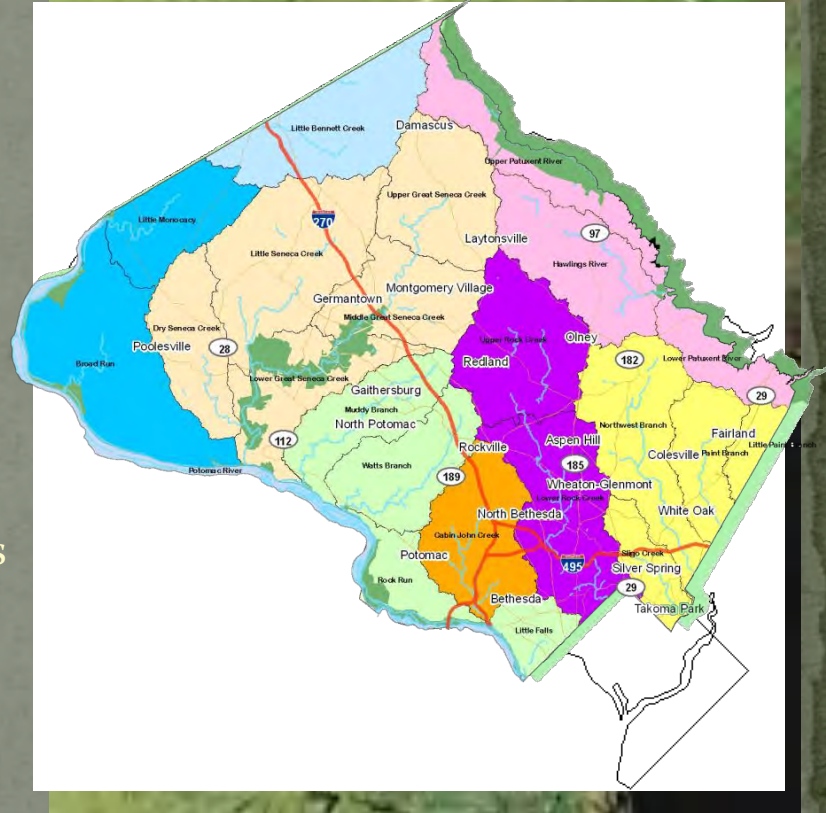
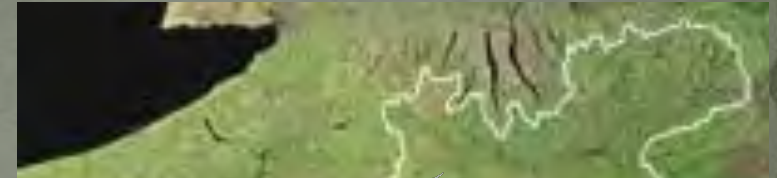


# Presentation Outline

- **County Overview and Stormwater Permit**
  - Funding – Water Quality Protection Charge
  - Green Streets Program
  - RainScapes – Voluntary Rebate Program
- **Outreach and Community Engagement**
  - Focusing Outreach Efforts
  - Priorities for Implementing Behavior Change
  - Current Outreach Programs
  - *On the Horizon...*

# Montgomery County, MD

- 507 sq. miles
- Over 1 million people
- Nearly 400,000 homes
  - Second only to Baltimore City within MD in average people per square mile
  - Very Diverse - 184 languages spoken - Spanish, Chinese (Mandarin), Korean, Vietnamese, Amharic (Ethiopia)
- About 12% impervious surface overall
  - About the size of Washington DC – 61 sq. miles or about 39,000 ac
- Over 1,500 miles of streams
- Two major river basins:
  - Potomac (88% of drainage)
  - Patuxent (12% of drainage)
- 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 permit requirements:

- Restore Local Streams and Watersheds
- Reduce Trash entering the Potomac and Tributaries
- Increase Public Outreach and Stewardship
- Requires additional stormwater management for **20 percent** of impervious surfaces (4,292 acres = 6.7 square miles).

1.5 times the size of Pottstown

**Equivalent to 3,307 football fields!**





## Meeting the permit requirements:

- 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



# Reporting Progress (FY10-FY13)

- 3<sup>rd</sup> round permit (4,292 acres)
- Reached 62% of the impervious acre goal
  - ~2,700 acres (~900 projects)
- 2,224 acres in design (135)
- 306 acres in construction (20)
- 110 acres completed (87)
- RainScapes – 21 acres
  - 42% of goal
  - Rebates (500+) – 15.4 ac
  - Neighborhoods (78) – 2.7 ac
  - Schools/Demos – 2.7 ac
- Street Sweeping – 19 ac
- Outreach - ???

As of Oct. 2013



# Water Quality Protection Charge (WQPC) - Structure

2002-2012:	2013*
Flat rate based on housing type <ul style="list-style-type: none"><li>•Multi-family residential - Apartments and condominiums</li><li>•Single Family Attached &amp; Detached</li><li>•Non-residential (Common areas – HOAs)</li></ul>	All property owners including agriculture, businesses, and non-profits.
Charge ~\$30-\$90 as of 2012	**Tiered approach - Charge based on amount of impervious surface on the property

\*In 2013, Maryland legislature enacted a law that required all jurisdictions to charge a stormwater fee.

\*\*Starting in July 2013, Montgomery County created a WQPC credit program, a phase-in program and a hardship exemption.



# Marketing Projects

## Involve the public in every aspect

- Letters
- Public Meetings
- Project Specific Websites
- Community Walks
- Volunteer Participation

### Watershed Restoration Project Process



#### PHASE 1 — WATERSHED STUDY

Evaluate the overall condition of the watershed and identify critical issues. Highly critical sites are then selected for further assessment and survey to determine feasibility of the project. Residents may be contacted if access is needed to conduct the evaluation and survey.



#### PHASE 2 — DESIGN

Multiple public meetings and community walks may be held throughout this phase. During the meeting(s), drafts of the design will be presented to collect residents' input.



#### PHASE 3 — CONSTRUCTION

Residents will be informed when project construction will begin. The project will undergo construction.



#### PHASE 4 — COMPLETE

Once the project is completed, residents will be notified and depending on the project, a community walk may be held to look at and celebrate the completed project.



#### STEP 5 — MONITORING

Projects may be monitored to evaluate the success of project goals.



# Community Project Walks



*Join Us* for the Franklin Knolls & Clifton Park  
**Green Streets Community Walk**

**Community Walk**  
Saturday, March 16<sup>th</sup>  
10:00am - 3:00pm  
*(Rain or Shine!)*

Phase 1  
10:00 - 12:00  
Meet at Intersection of  
Langley, Heron, & Miles

Phase 2  
1:00 - 3:00  
Meet at Intersection of  
Daleview & Linton

*Bioretention  
Garden  
Coming  
Here Soon!*

For more info contact: Jennifer St. John, 240-777-7740, [jennifer.stjohn@perc.state.md.gov](mailto:jennifer.stjohn@perc.state.md.gov)  
or visit our project website at: [www.franklinknollsandcliftonparkgreenstreets.com](http://www.franklinknollsandcliftonparkgreenstreets.com)  
click Northwest Branch, then Franklin Knolls & Clifton Park Green Streets

03/15/2012 09:00

- Public Meetings –at different design stages
- Before & After Community Walks



# Green Streets Construction





# Green Streets Construction





# Green Streets Planting



- Officially County Maintained
- Work with Volunteers also



# Stream Walks



Booze Creek example

- 1.5 mile restoration
- 8 education stations
- Watershed group table
- Biomonitoring station
- 65 in attendance
- Video & Plant Cam
- Social Media
- Project Life 2005-2013
- Letters
- Presentations
- Cleanups & Invasives
- Volunteer plantings
- Project Webpage
- Civic Association



# 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





# RainScapes Rewards

- Started as pilot in 2004
  - CBT grant
  - Demonstrations
- Fully Funded in 2008
  - (WQPC)
  - Rebates
- 2014 - 10 yr anniversary
- Treatment goal:  
50 impervious acres  
controlled for the first 1" of  
rain by Feb 2015





# 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



# RainScapes Resources for Residents

- Public Outreach & Workshops
- Presentations to groups
- Watershed Group Capacity Building
- Staffing events like the County Fair, Green festivals, School events, etc
- Professional training for landscape professionals
- Field Days for professionals

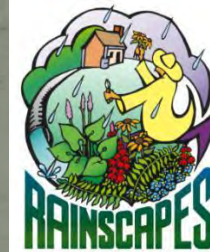




# Residential Workshops

What is covered:

- How to assess a site
- How to choose a project
- How to site a project and determine appropriate size
- How to design and install a project with professionals
- How to make it beautiful....and more!



## Green Roof

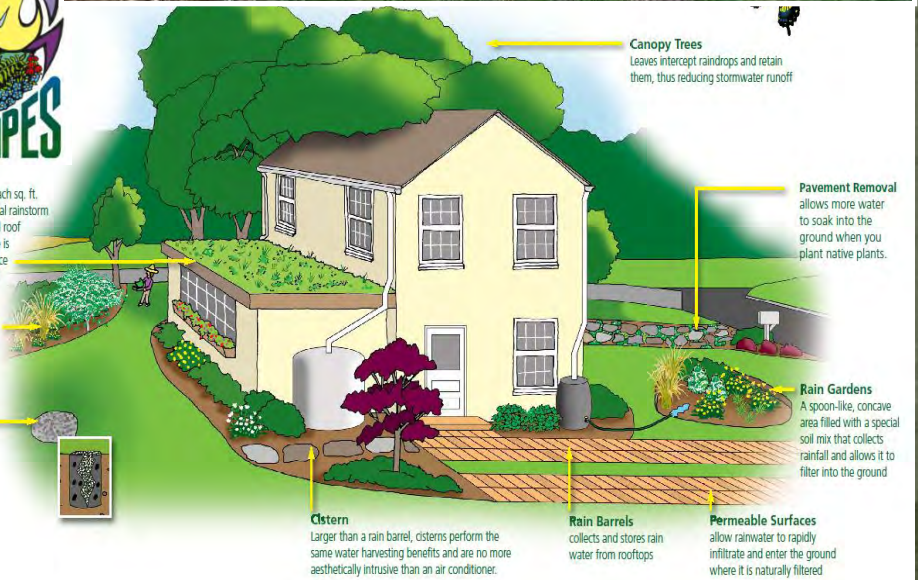
\* 623 gallons of water falls on each sq. ft. of roof during the during a normal rainstorm of 1". A 1000 sq. ft conventional roof can shed 623 gallons when there is an inch of rain. Green roofs reduce and clean this stormwater runoff before it hits the ground.

## Conservation Landscape

Loosened and improved soil, planted with easy-to-maintain native plants that soak up the rain.

## Dry Well

collects stormwater from rooftops or driveways and filters the rainwater through a small stone-filled pit, then into the underlying soils



## Canopy Trees

Leaves intercept raindrops and retain them, thus reducing stormwater runoff

## Pavement Removal

allows more water to soak into the ground when you plant native plants.

## Rain Gardens

A spoon-like, concave area filled with a special soil mix that collects rainfall and allows it to filter into the ground

## Cistern

Larger than a rain barrel, cisterns perform the same water harvesting benefits and are no more aesthetically intrusive than an air conditioner.

## Rain Barrels

collects and stores rain water from rooftops

## Permeable Surfaces

allow rainwater to rapidly infiltrate and enter the ground where it is naturally filtered





  
**RAINSCAPES**  
For Healthy Watersheds  
[www.RainScapes.org](http://www.RainScapes.org)



# Landscape Professionals Series

## 1. Classroom instruction (prerequisite class)

- Program overview

## 2. Rain Garden Site Assessment & Design Charette & Course

- Rain Garden specifics – design exercises
- Site assessment Classroom + Field work & Design exercise

## 3. Rain Garden Field Day

- Hands on Site assessment & Rain Garden build

Other courses offered through Montgomery College  
Landscape Technology Program

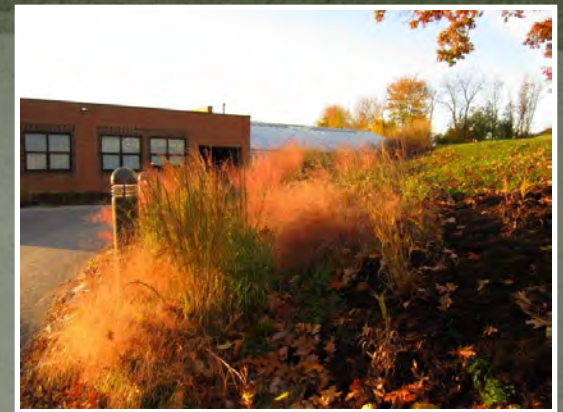
Green Landscaper Certification





# RainScapes for Schools

- Work with community
- Curricular focus to projects
- Volunteer labor
- RainScapes provides design, materials, oversight
- Coordinate with MCPS Division of Construction
- HS Growing Program
  - 8 schools
  - 800 plants
  - 75% return, 25% retain
  - School projects & Fundraisers
  - ROW projects
  - Event giveaways

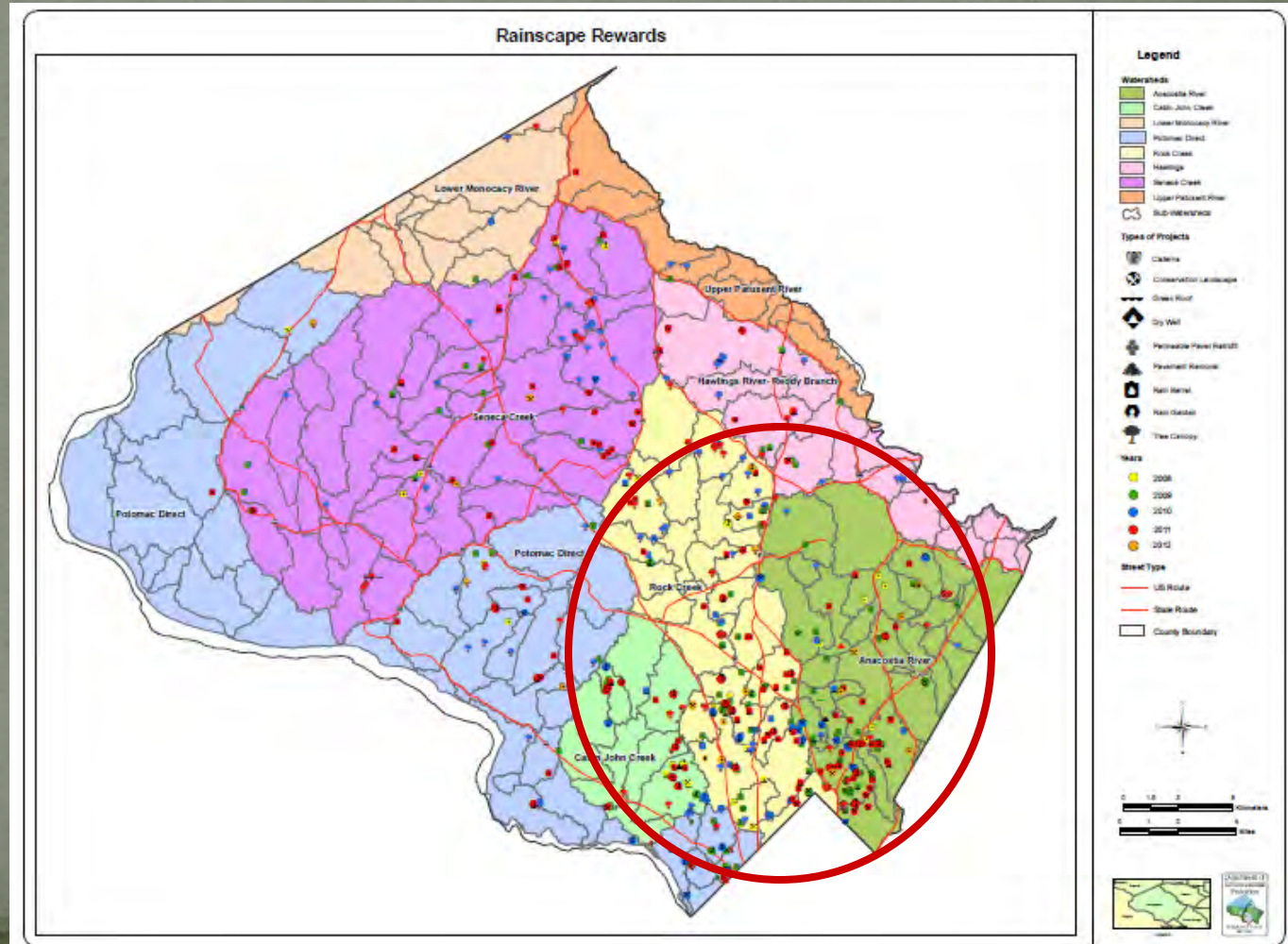




# Where are the projects?

RainScapes Rewards are mainly in 3 watersheds

- Rock Creek
- Anacostia
- Cabin John





# How many projects in the ground so far?



<b>RainScapes Rewards</b>	<b>454 (paid)</b>
<b>RainScapes Neighborhoods</b>	<b>18</b>
<b>RainScapes for Schools</b>	<b>14</b>
<b>RainScapes Partnership Projects / Watershed groups /Demos</b>	<b>31</b>

~500 as of Oct. 2013

There are many more still “in process”



# RainScapes Rewards

Building_Type	Project_Size	IA_SF	Paid_Amount	HOME_COST	number
Commercial, Institutional	1287.97	3812.05	\$2,182.11	3879.1	37
Single-family	309.87	620.22	\$517.67	1408.82	412
Town-home	107	109.8	\$101.84	46.04	5

*Rebate doubled in 2012*

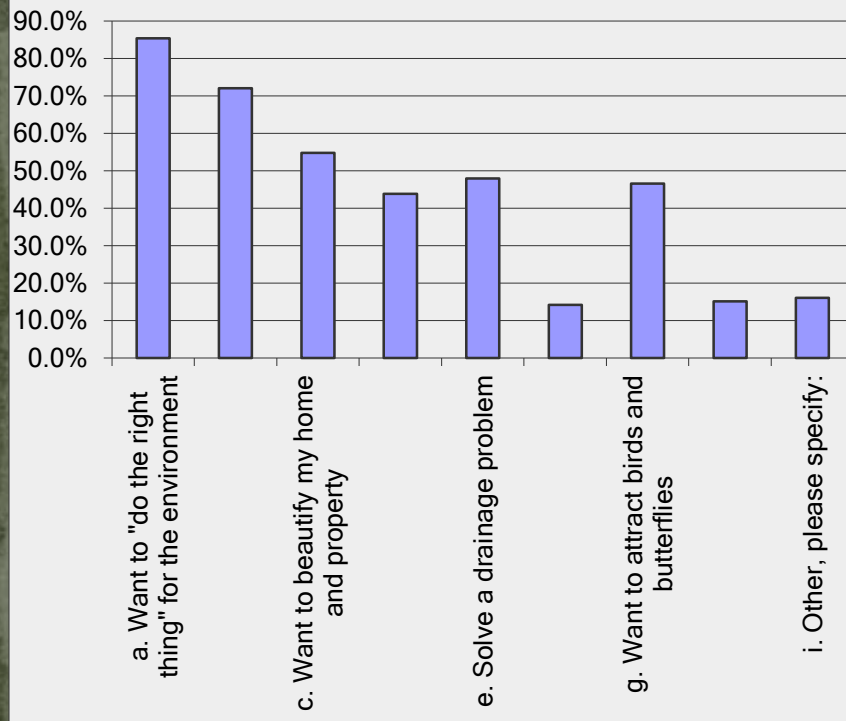
*Impervious area treated-table  
does not include trees*

*\*Chart shows Preliminary analysis figures*



# Surveying the Participants – Why do people RainScape?

What would motivate you to install a stormwater management project (e.g.: rain garden, conservation landscaping, tree canopy, permeable pavers, green roof, ran barrel/cistern, or dry well)? (check all that apply)



- Do the right thing for the environment (85%)
- Financial incentive (72%)
- Add beauty to my home & property (55%)
- Solve a drainage problem (48%)
- Attract birds & butterflies (47%)
- Reduce erosion in yard (44%)



# Market Research -Qualitative Results from Participants

- Didn't realize they could do more even though they wanted to
- Didn't realize the rebate & program cap had changed
- Wanted to continue to beautify the home, solve erosion problem or do their part for the Bay
- **Were excited they were still able to participate.**





# What did people find helpful?

- “The part that most helped me was when DEP Staff visited my property and gave me on-the-spot ideas for shaping the garden and specific plants I could use. -I don't have design talents.”
- “More staff! It's a wonderful program, and I'm so glad it was recommended to me.”





# Technical assistance matters

- *“DEP Staff were helpful, and the landscapers we dealt with made it easy.”*
- *“The landscapers took over and submitted the plans so I did not have to do the paper work—they were more than happy to do it.”*





# Money matters

Most participants, felt that the rebate amounts they received from the RainScapes program were “the right amount.”

- *“It was not trivial. Reasonable enough to encourage me.”  
(Residential)*
- *“I thought it was fair – it paid for about 50% of the project.  
(Commercial)*
- *“It makes sense where it is. The new limit is a good size for the homeowner.” (Landscape)*

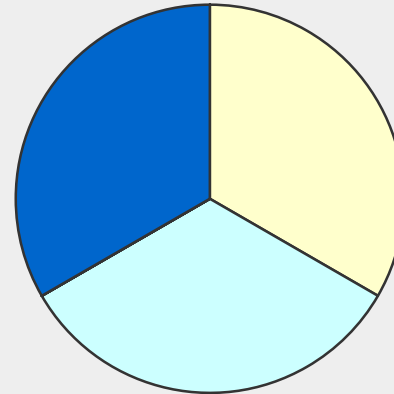




# What helps to get projects finished?

1. Seeing examples of finished projects
2. Getting help/advice planning my project
1. Simplifying the application process

What would motivate you to finish your project? (check all that apply)



- a) Seeing examples of finished projects
- b) Increasing the rebate amount
- c) Getting help/advice planning my project
- d) Simplifying the application process
- e) Learning more about how the project will benefit me and help me meet my goals
- f) Quicker approval process
- g) Easier installation process



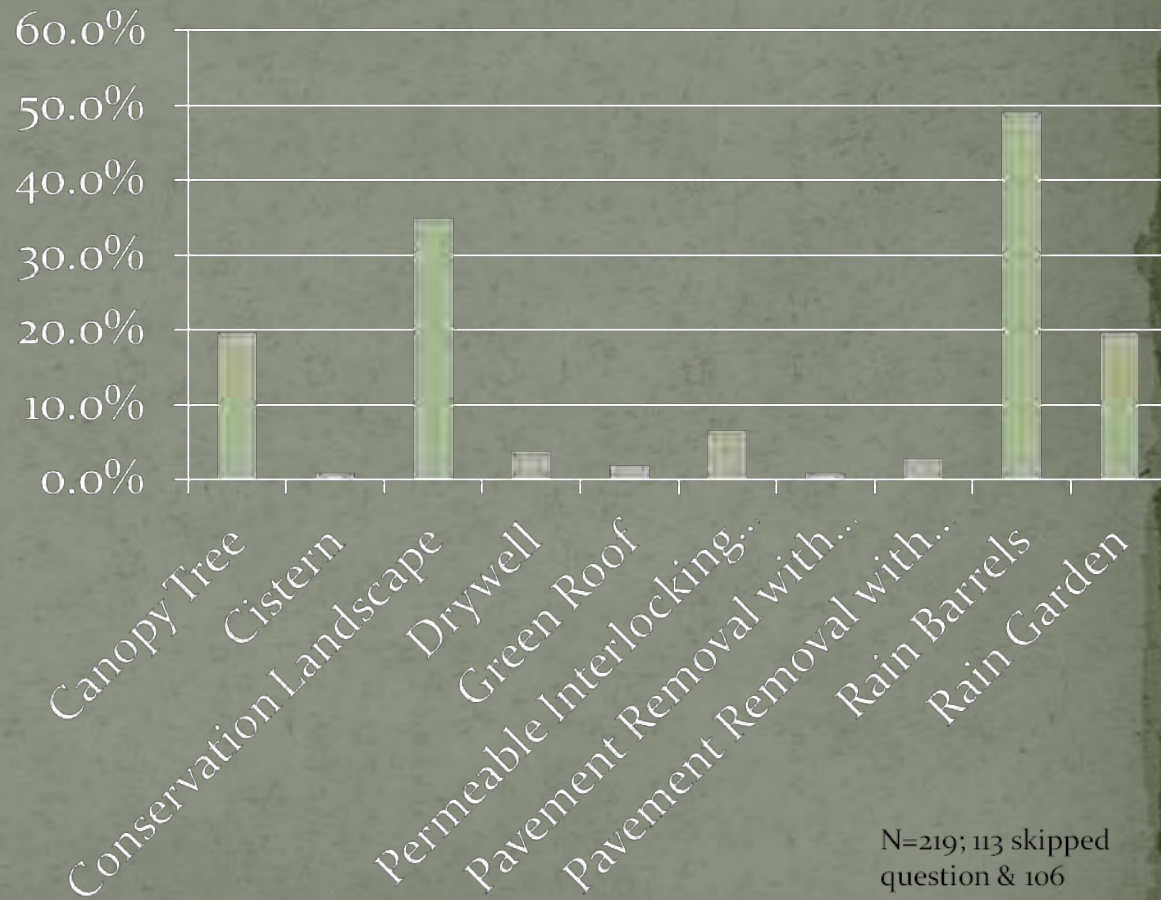
How did you hear about the RainScapes program or a similar stormwater management program? (check all that apply)

Answer Options	Response Percent	Response Count
From a friend, neighbor, or family member	15.50%	34
From a landscaping professional	11.00%	24
From a Master Gardener	7.30%	16
At a workshop or class	12.80%	28
Through an online search that took me to the RainScapes website	29.20%	64
Through a community/ neighborhood listserv or email group	13.70%	30
From nursery or garden center staff	6.80%	15
From a flier/brochure	15.50%	34
From a school or community demo project	2.70%	6
Don't remember	10.00%	22
Other, please specify:	21.90%	48
		N= 219

***No clear marketing winner.***



## What type of RainScapes project(s) did you complete or have in the works? (check all that apply)



- Most said the project took as long as expected (75%)
- Almost all achieved their project goals (98%)
- Most said they completed their projects (88%)\*



Montgomery County Maryland

Home | Owner info | Assessment | Site Assessment | Design | Installation | Action | Inspection | Follow-up

RSNH: Wheaton | Address: 260 E. JEFFERSON ST | Property Tax Id: 00000611

Preliminary Screening

SIGNIFICANT constraints that preclude further site assessment | % downspouts connected in front: 50%

On-Site Retrofit Potential

Front Yard Slope: 2.5 - Moderate/steep

RainScapes Project Scores for Front Yard Space and Left or Right Placement of Project in Front Yard

RainGarden Proj:	3 - Not suitable	RG Placement:	Right
Conservation Landscape Proj:	1.5 - Slight constrain	CL Placement:	Right
RainBarrel Cistern Proj:	2 - Moderate constr	RB Placement:	Right
Tree Canopy Proj:	3 - Not Suitable	TC Placement:	Right
Landscaping Effort:	2 - Low effort	Driveway Slope:	Moderate slope
On Lot Driveway Retrofit Space:	Grading and space gr	Lot to Lot Drainage:	Both run-off and run-in

ROW Issues

Available Area Length: 50000 | Available Area Width: 4000

Trench Drain to ROW Rain Garden |  ROW Retrofit Site

Trees |  Sidewalk |  Utilities |  Pedestrian Use of Roadway

Feasibility Comments: scacrc | Other Actions: cxdtpst

Assessment Notes: sddpddfg | Date: 1/14/2014 1:44:22 | Assessor: Pam Rowe

Submit | Cancel

# Mapping Neighborhood Screening Results

Your Neighborhood Assessment Results

Ken-Gar



• 100% County Funded

• Access Issues

• Coordination



30% Implementation Goal



# So much done, so much to do...

## RainScapes Rewards

- Over \$1 million in receipts
- Nearly \$300,000 in rebates
- 42% of goal with 16 months to go!





# Program evaluation – lesson learned and next steps

- RainScapes is like marketing SWM door-to-door:  
Marketing is time consuming
- Messaging & Branding
- Sometimes projects don't last
- People like what we do but say we need to market more aggressively
- Expand Workshops & Trainings
- “Set it & Forget it”-maintenance
- Limit use of stormwater – focus on the aesthetic benefits

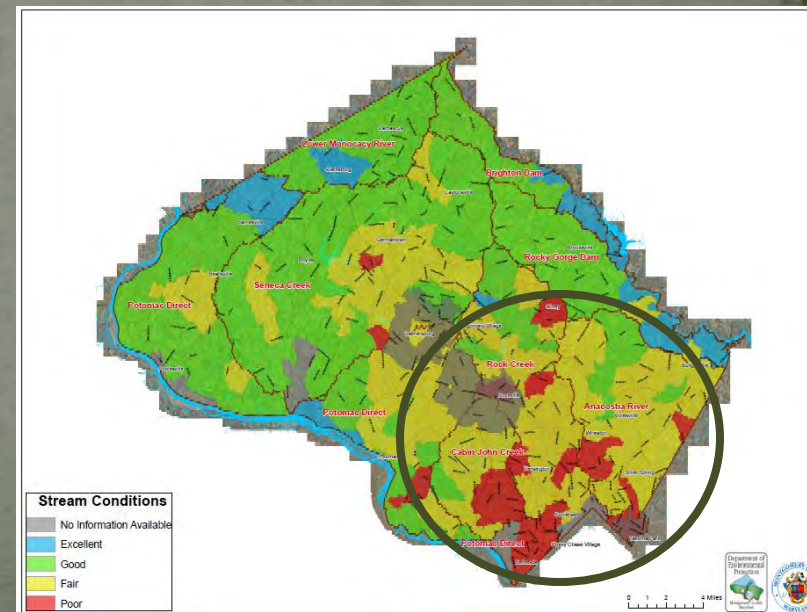
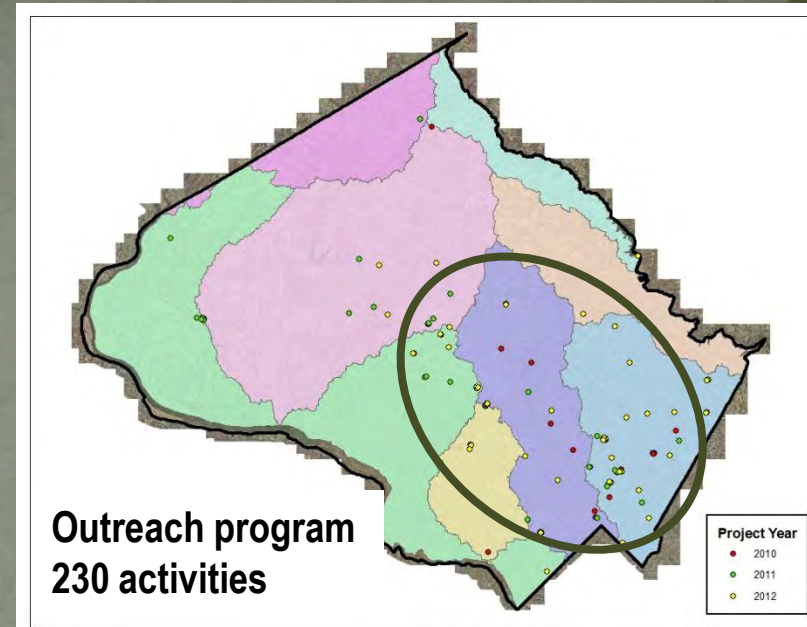




# Focusing Outreach

- Plan Developed in 2010
- Majority of outreach focused in the most impacted County watersheds
  - **Anacostia and Rock Creek**
- Link events to Restoration Projects
- Increase number of residents reached
  - **More than 630% from FY 10-FY13**
  - **66% increase last year**
- Document Awareness and Behavior Change
  - **Pre- and Post-Project Surveys**

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





# 8 Priorities for Implementing Behavior Change

*\*Vital roles for watershed and community groups*

## Most cost-effective reduction approach:

### ❖ Bacteria from urban sources (Pet Waste)

- *Surveys, & educational materials \**
- *Installing pet waste stations (pilot program)*
- *incentive program for installations*

### ❖ Anti-littering

- *Advertising campaign*
- *increased enforcement*
- *Training public and private property staff*

## Programs providing 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
  - *Supporting tours of ESD practices \**
  - *Developing a Geocaching Stormwater Awareness Trail\**
  - **Installing signs**
- Reduce impervious surfaces (parking lots & driveways)
  - **Encourage property owners to reduce their impervious footprint**
- Establish Stream Stewards Volunteer program
  - *Volunteer, peer to peer program\**
- Increase residential runoff management
  - *Increase promotion of RainScapes Program\**





# Outreach and Community Engagement

- Role of Watershed Groups
- Establishing New Partnerships
  - Commission on Common Ownership Communities
  - Office of Community Partnerships
  - Alice Ferguson Foundation
  - Faith Based Organizations
  - Granito de Arena – Diversity
    - Rain Barrel Workshops & presentations
- Property Managers Training
- Realtors Stormwater 101 Workshop
  - Greater Capital Area Association of Realtors
    - 89% increased their knowledge of stormwater





# Outreach and Community Engagement

- H2O Summit Partners
  - University of Maryland Extension
  - Cities of Gaithersburg and Rockville
  - Montgomery County Parks
  - Washington Suburban Sanitary Commission (WSSC)



- Baseline surveying & Post event surveys
- Eventbrite
- Advertising

Year I: Watershed groups (150)  
Year II: Local Agency partners (180)  
Year III: WSSC (400+) added Fair  
Year IV: ???



- 54% of attendees increased their knowledge about local watershed groups
- 24% changed their attitudes or behaviors





# Outreach and Community Engagement

- Anti-Litter campaign- **Regional effort**
  - **Annual Potomac River Watershed Clean Up**
  - Radio spots—Fall 2011 (50 ads)
  - Bus Transit (~80 ads/yr) and Bus Shelters (95 ads/yr)
    - **Fall 2011 thru Fall 2013**
  - Posters to Schools, Libraries, Recreation centers
  - Recycling Truck Fleet (125 trucks)
    - Conducting follow up surveys to determine impact
  - **White Oak Community (2014)**
    - Eyes of Paint Branch
    - Community leaders





# Outreach and Community Engagement

- Pet Waste Prevention– March 2013 Pilot project

- Contract

- Rock Creek Conservancy
- Interstate Commission on the Potomac River (ICPRB)

- Home owners Associations

- Bacteria TMDL & Distance to Stream
- “Managed or controlled” land or open space
- Identified waste issues by HOA board (mailed survey)
- High Pet Ownership, No previous control, Interest
- Stations (7) cleaned, weighed, & reported weekly
- Pre-Surveys (perception based) & Follow up surveys (2014)

- Results to Date: 1250 lbs waste collected

- Expanding to other areas

- 27 HOAs surveyed
- 13 responded – no reported issues but wanted outreach material



**274** libras de desechos al año

Sabía usted: Según la Agencia de Protección Ambiental de los Estados Unidos (EPA, por sus siglas en inglés), un perro vacía 274 libras de desechos al año.

**El Excremento de las Mascotas es Peligroso para Su Salud**

- El excremento de las mascotas es más que un fastidio – es también un riesgo para la salud. Es considerado como aguas negras y contiene bacterias y parásitos que pueden ser transmitidos a su hogar e infectar a su familia e incluso a sus mascotas.
- Cada vez que llueve, miles de libras de excremento de mascotas abandonados en el suelo son lavadas y terminan en desagües de aguas pluviales que pueden dirigirse directamente a nuestros arroyos y ríos locales, causando contaminación a nuestros ríos.

**¿Qué puede hacer?**

- Todo dueño de mascota cumple un papel fundamental en prevenir la contaminación del agua de nuestras cuencas. Un dueño responsable recoge el desecho de su mascota, tanto en su patio como en áreas públicas.
- Cuando saque a su mascota a pasear, al jardín o al parque, lleve bolsas plásticas para recoger los excrementos. Deshágase apropiadamente de los excrementos de su mascota amarrando la bolsa y tirándola en la basura o en un contenedor de desechos de mascota.

**¿Qué es una Cuenca?**

Es el área de terreno, incluyendo su patio, del cual el agua dreña a nuestros arroyos, riachuelos, ríos u otros cuerpos de agua. El condado de Montgomery tiene diez cuencas mayores, cuya territorio total dreña al río Potomac o al Patuxent, ambos desembocando eventualmente en la bahía de Chesapeake.

**¡IMPORTANTE!** Dueños de mascotas que no recojan y tiren apropiadamente los excrementos de su mascota en la basura están sujetos a multas por cada infracción.

Para más información llame al 311 o visite la página web: [www2.montgomerycountymd.gov/311](http://www2.montgomerycountymd.gov/311)

Para más información sobre cuencas locales:







Are you  
in the  
**Poop Loop?**  
Clean up after your pet



Bacteria

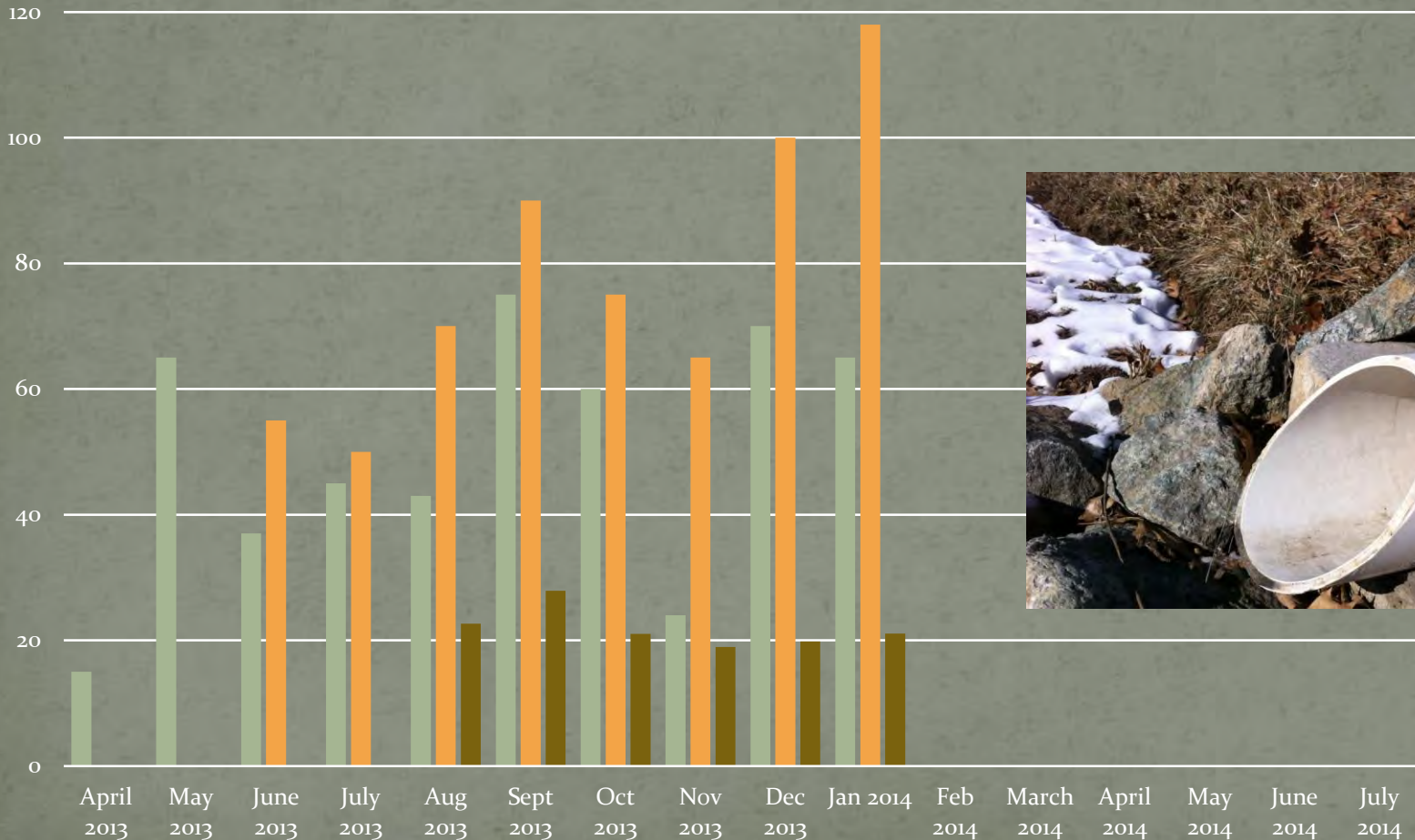
*1. Pickup Pet Waste*





# Pet Waste – Rock Creek Watershed Pilot project

## Comparison of pet waste collected per HOA





# Outreach and Community Engagement

- Watershed Group Capacity Building - Contract with Interstate Commission on the Potomac River Basin
- Watershed Group Support and Trainings
  - 2011-2013 Chesapeake Watershed Forum attendance
  - Train the Trainer Workshops
  - Surveyed Needs
  - River Network Assessment Tool
  - 3 new watershed groups
  - Strategic Planning
  - Outreach & Volunteer Recruitment
- Hands-on projects
  - Conservation Landscaping Demonstration Projects
  - Storm drain Marking (1200)
  - Pet Waste Management Pilot



Geneva Day School Demonstration Garden



# Watershed Group Capacity Building

- Surveyed Response
  - 65% viewed the trainings as helpful
  - 72% felt their knowledge had greatly improved in strategic planning
  - Most felt they would benefit from further guidance from DEP and training opportunities.
  - *“I’m surprised how much it engaged my board and made them more active”.*



# Outreach and Community Engagement

## Faithfully Picking up the Potomac

- Organized by local watershed group
  - 2012 – 35 attendees, 3 faith based organizations
  - 2013 – 72 attendees, 8 faith based organizations
  - 2014 – 65 attendees, 10 faith based organizations
- Speaker series
- Followed by local cleanups



Conducted by Muddy Branch Alliance



# Watershed group activities 2013

- Included in Annual Reporting
- 9 watershed groups
- Over 4,200 volunteers recruited
- Over 10,000 volunteer hours - *service value of over \$230,500*
- Over 300 public events hosted
- Over 1,000 bags of litter and recyclables collected and pulled from local streams



# Stream Stewards Program

## *Reaching Beyond the Choir*

- Mission
  - Structure
  - Policies and procedures
  - Measurable goals
  - Tracking system
  - Training modules
  - Implementing program
- Started in 2012
  - Participation: 75 volunteers
    - 215 receiving updates
  - Service Hrs: 678 donated hrs





# Social Media



- Blogs, Twitter, Facebook
- My Green Montgomery TV
  - 8 episodes

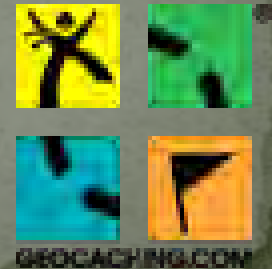
- DEP website
  - 280,000 web hits
  - 96,000 unique to water themed content pages
  - Over 4,000 listserve subscribers
    - 27% increase from 2012
- My Green Montgomery
  - 5,500 unique visitors
  - 1,400 unique page views on water themed content
    - 24% increase from 2012



# Stormwater Awareness GeoTrail



- Conservation Corps Volunteer
- Maryland Geocaching Society
- Public Libraries
- Dept. Of Recreation
- Watershed Groups
- Schools







# "Caching the Rain"

## Montgomery County's Stormwater Awareness Geocaching Program

By: Virginia Vassalotti  
Chesapeake Conservation Corps Volunteer  
Montgomery County Department of Environmental Protection  
[Virginia.Vassalotti@montgomerycountymd.gov](mailto:Virginia.Vassalotti@montgomerycountymd.gov)



### What is Stormwater Runoff and Stormwater Pollution?

**Stormwater runoff** is the excess water that is not absorbed in the ground during a precipitation event.

Many people believe stormwater is treated after entering our storm drains. This is not the case; stormwater typically flows **untreated** into streams, rivers, lakes, and ultimately the Chesapeake Bay.

Stormwater is a major cause of pollution to our waterways. It picks up trash, debris, sediment, chemicals, and pollutants and flows directly into our waterways.



About 12% of overall cover in Montgomery County is **impervious** (not allowing water to soak through the ground).

This is about the size of Washington D.C.!

### What is Geocaching?

Geocaching is an outdoor scavenger hunt to find "geocaches," or treasures that anyone with a GPS enabled device, such as a smartphone, can participate in.



#### What is in a typical geocache?



A *traditional* geocache consists of:

- a waterproof container
- a logbook
- a pencil to record time and date of discovery, as well as code name of the finder

#### Are there other types of geocaches?

Yes! There are many types of geocaches.

Some of them include:

- **Multi-cache:** two or more geocaches with clues leading from one GPS coordinate location to another
- **Mystery/puzzle:** involves solving a puzzle or riddle to find the coordinates of the geocache
- **Event caches:** involves a group search or gathering to discuss the location of a geocache
- **Earthcaches:** include educational earth science lessons online

### "Caching the Rain"

#### How does geocaching and stormwater pollution fit together?

Montgomery County Department of Environmental Protection is working to create an innovative stormwater awareness geocaching program that incorporates family-fun with personal engagement in stormwater pollution prevention.

#### The Program:

Geocaches will be placed at or near stormwater facilities within Montgomery County public property and include an educational component.

There will be a variety of types of geocaches to engage the public's interest.

Once proven successful through the initial pilot, geocaches will remain for future searches and citizen engagement. Additional geocaches may also be added following the pilot.

#### Potential Locations



Bioswale



Conservation landscaping



Rain barrel



Rain gardens

### Reason for Need

The County is responsible for retrofitting 4,292 acres (6.7 square miles) of impervious surfaces. That's the equivalent of 3,307 football fields!

**We need the residents' help to reach this goal!**

#### Goals:

The final goal of the program is to change residents' behavior to prevent stormwater pollution, including encouraging installation of stormwater facilities on their property.

- Some stormwater facilities include:
- Rain gardens
  - Dry wells
  - Rain barrels
  - Conservation landscaping



#### Evaluation:

Preliminarily, participation and popularity will be tracked through an online geocache account. Participants in the program will be surveyed periodically on the program's influence on their decisions and behaviors towards preventing stormwater pollution. Based on user feedback, the program will be improved as needed.

#### Acknowledgements:

Special Thanks to:  
Ryan Zerbe - Watershed Outreach Planner, Montgomery County Department of Environmental Protection  
Meosotis C. Curtis - Manager, Stormwater Permit Coordination, Montgomery County Department of Environmental Protection  
Tara Baker - Program Coordinator, Chesapeake Bay Trust

#### For More Information:

Contact: Ryan Zerbe at [Ryan.Zerbe@montgomerycountymd.gov](mailto:Ryan.Zerbe@montgomerycountymd.gov)  
or Virginia Vassalotti at [Virginia.Vassalotti@montgomerycountymd.gov](mailto:Virginia.Vassalotti@montgomerycountymd.gov)  
or <http://www.geocaching.com/>



# *In process & going forward:*

- New DEP Logo & Branding Contract
- Program Surveying
- Implementing RainScapes Marketing Plan
- Increase efforts for Watershed group capacity building
  - Strategic Planning, Volunteer Recruitment, & Marketing
- Expanding Pet Waste Program
- White Oak Anti-Littering Campaign
- Expanding Stream Stewards Program
  - Maintaining ESD facilities
  - FrogWatch program
- Riparian Buffer Restorations
- Lawn Care Stewardship campaign



# Take home:

- Stormwater fee structure makes a world of difference\*
- Neighborhood advocates or liaisons are key
- Identify the target audience(s)
  - General public is *not* a target audience
- Plan, plan, plan; Evaluate, evaluate, evaluate
- Go to where the people are.
- Just like Diet pills, there's no cure all.
  - Multiple approaches are necessary.





# Questions?

Save the Streams for our Future!!

Ryan Zerbe  
Watershed Outreach Planner  
[ryan.zerbe@montgomerycountymd.gov](mailto:ryan.zerbe@montgomerycountymd.gov)  
240-777-7744