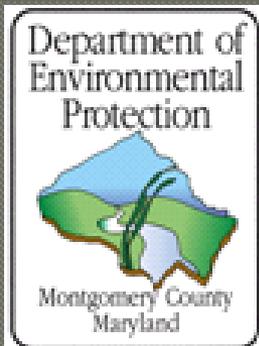


Stormwater Management Budget

Steve Shofar, Division Chief
Watershed Management Division
Department of Environmental Protection
January 12, 2014

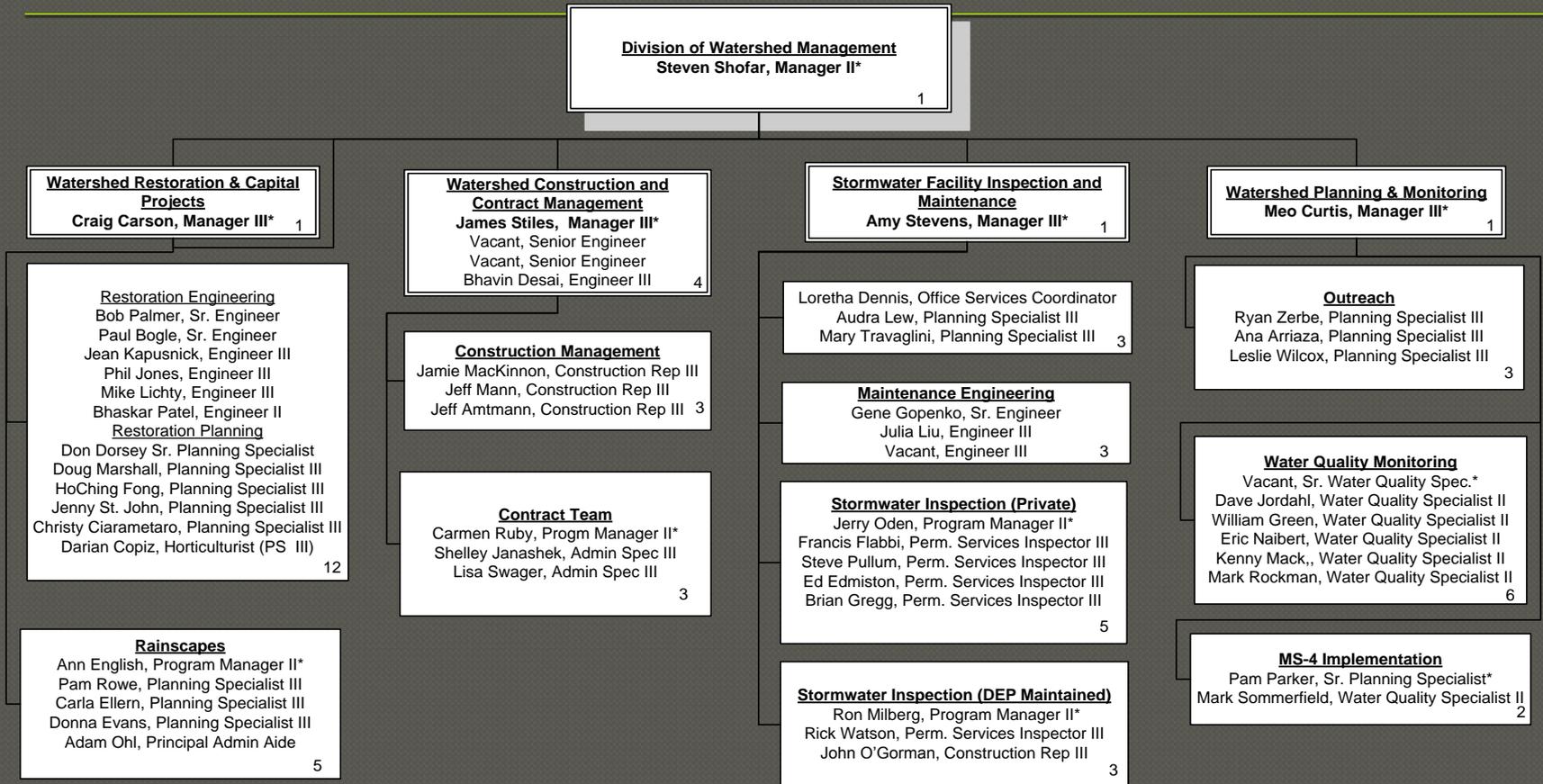


Watershed Management Division

- Stormwater Permit Coordination
 - Reporting, Monitoring, and Watershed Outreach
- Stormwater Facility Inspection and Maintenance
- Watershed Restoration
- Construction Management



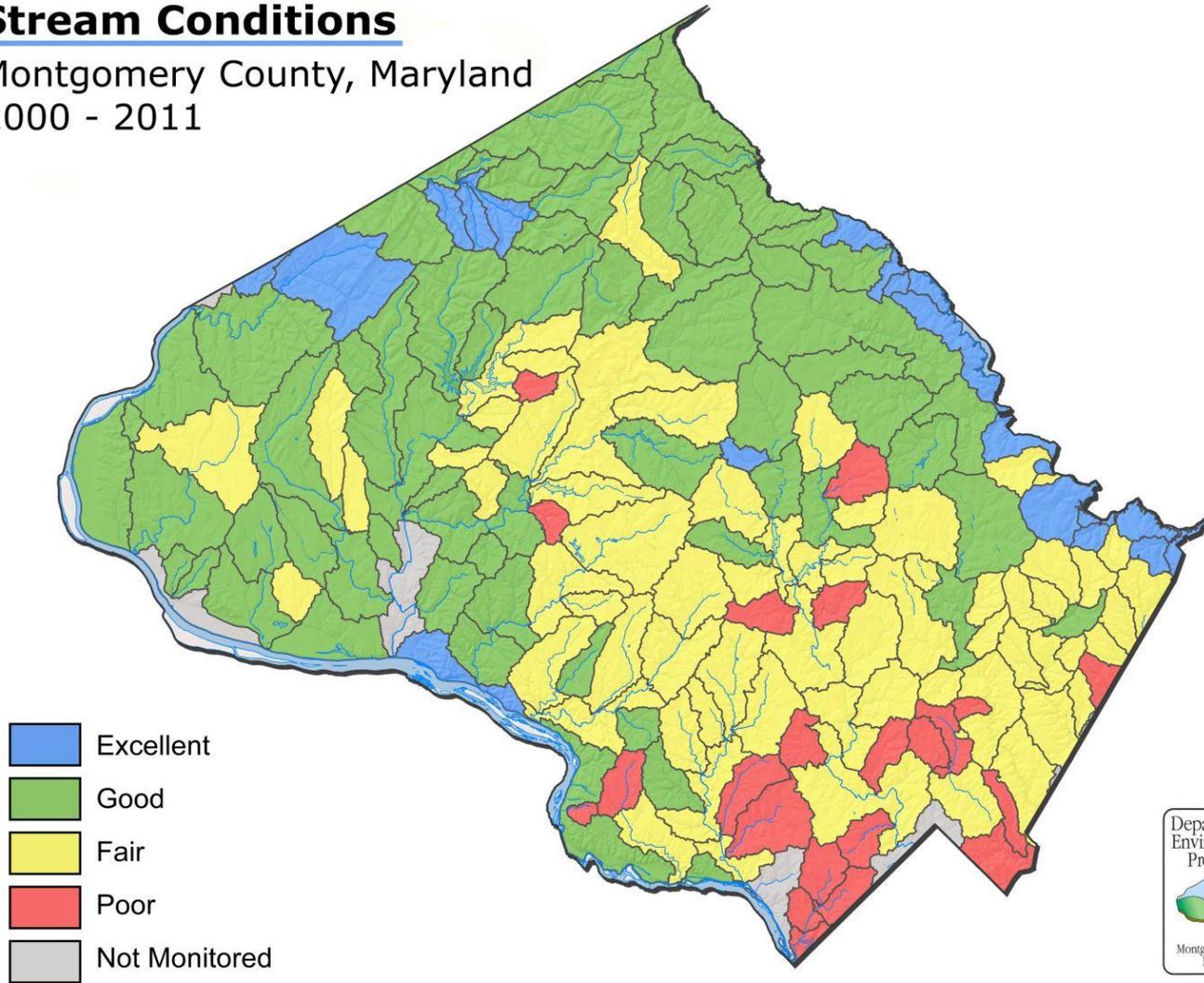
Department of Environmental Protection



* Indicates supervisory/manager position

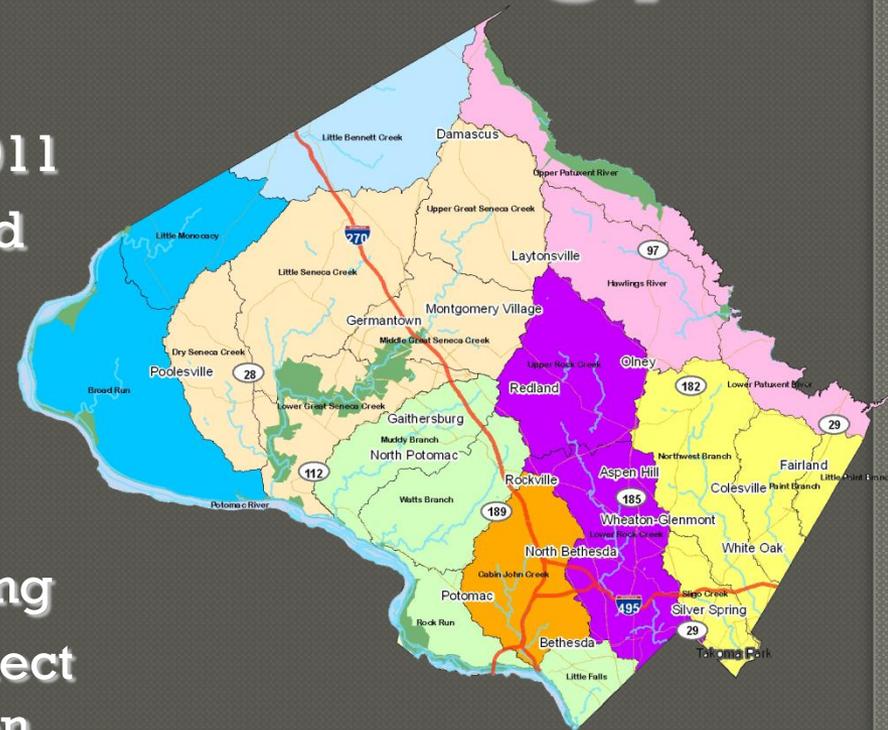
Stream Conditions

Montgomery County, Maryland
2000 - 2011



Countywide Implementation Strategy

- Submitted to MDE February 16, 2011
- Detailed plans for Eight Watershed Groups
- Meet MS4 permit requirements
- Includes public outreach and stewardship plan
- Establishes tracking and accounting
- Uses adaptive management to reflect experience during implementation



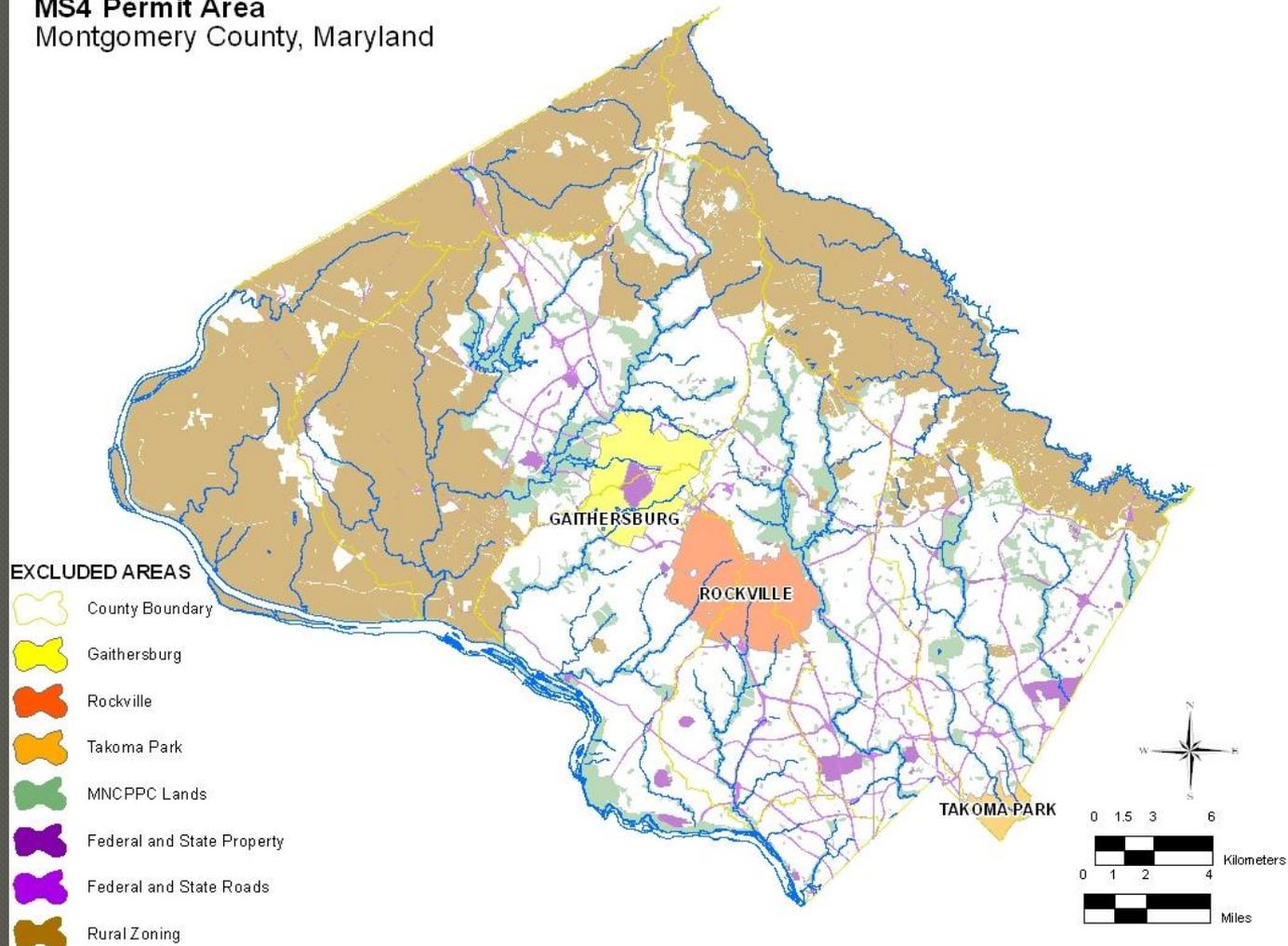
MS4 Permit: Impervious Cover

Description	Area in Acres
Total	324,552
Total Area of Impervious Surface	35,965
County Subject to Stormwater Permit (1)	138,649
Impervious Cover Subject to Stormwater Permit	25,119
Adequately Treated Impervious Cover	3,661
Inadequately Treated Impervious Cover	21,458
20% of Inadequately Treated Impervious Cover	4,292

(1) Exclusions include: Certain zoning codes, parklands, forests, municipalities with own stormwater management programs, state and federal properties, and state and federal maintained roads

MS4 Permit Area

MS4 Permit Area
Montgomery County, Maryland



County Watersheds on Maryland's Impaired List January 2014

EPA approved TMDLs shown in red



Numbers represent 8-digit State Codes
Boundaries are for 12-digit watersheds
All County 8-digit watersheds show biological impairment



Chesapeake Bay Requirements

- Focus on nutrients (sediment reductions assumed to accompany nutrient reductions (WIP))
- MS4 permit area—must reduce nutrients from 2009 baseline by the year 2025
 - Implement projects to reduce nitrogen by 16.6%
 - About 160,000 lbs per year
 - Implement projects to reduce phosphorus by 30.4%
 - About 13,000 lbs per year

Costs and Water Quality Benefits Per Countywide Strategy

Watershed	Fiscal Year						Permit/TMDL Targets	
		2015	2017	2020	2025	2030	2017	2020
Countywide	Impervious Treated (acres)	4,302	6,014	7,722	10,518	11,154	6,008	7,723
	ESD (% Impervious)	18%	34%	47%	60%	63%		
	Cost (Million \$)	305	622	987	1,687	1,884		
	ESD (% Cost)	53%	66%	70%	80%	80%		
	Nitrogen	18%	25%	36%	46%	51%	9%	20%
	Phosphorus	17%	23%	34%	44%	46%	12%	34%
	Sediment	23%	34%	54%	60%	62%	20%	37%
	Bacteria	11%	15%	20%	28%	30%		
	Trash	18%	26%	33%	41%	42%		



Impervious Cover in Typical Residential Neighborhood



Water Quality Protection Charge

- Montgomery County first authorized Charge in 2002; significant changes affecting the Charge program were enacted in 2013 *to comply with a 2012 State law*:
 - All residential and non-residential properties are subject to the Charge, as part of property tax bill
 - Seven-tier system for residential properties based on amount of impervious surface
 - Credit for residential and non-residential property owners for on-site stormwater management practices
 - Hardship exemption for residential properties owners and 501(c)(3) *non-profit* entities
 - 3-year (2013 – 2015) phase-in for increases

Credit Program

Credit (a reduction to the Charge) is provided to property owners who own and maintain onsite stormwater management practices and is based on the volume of water captured

- How it works:
 - Application form must be filled out and submitted by October 31st, the year before the credit would go into effect
 - Approved credits are valid for three years
 - The amount of the credit is based on the type of stormwater management and the volume of water treated
 - Stormwater management practices must be maintained by the property owner and in accordance with the maintenance requirements of the Department of Environmental Protection (DEP)
- More information online at:
<http://www.montgomerycountymd.gov/DEP/water/wqpc-credits.html>

FY 15 Operating Budget

◉ Revenue

- Water Quality Protection Charge (WQPC):
 - \$28.3 million
- Bag Tax
 - \$2.1 million

◉ Non Operating Program Related Expenses

- Indirect costs: 1.2 million
- Bond Debt Service: \$3.1 million
- CIP Facility Planning: \$ 1.4 million
- Storm Drain CIP: \$2.7 million

FY15 DEP Operating Related Expenses

- ◉ DEP Personnel: \$ 5.2 million
- ◉ SWM facility inspection and maintenance: \$ 5 million
- ◉ Rainscapes: \$ 400,000
- ◉ Street Sweeping: \$230,000
- ◉ USGS Gages: \$500,000
- ◉ Outreach and Education: \$130,000
- ◉ Grant Program: \$300,000

Non DEP Operating Expenses

- ◉ Storm Drain Maintenance (DOT): \$ 3.4 million
- ◉ MNCPPC SWM: \$2.8 million
- ◉ Soil Conservation District: \$320,000

FY15 CIP Budget

- Major Structural Repairs: \$ 7.5 million
- Government Facilities: \$ 3 million
- Roads: \$ 12.7 million
- Schools: \$ 3.5 million
- Misc. Stream Valley Improv: \$ 6.4 million
- Countywide: \$ 18.7 million
- Facility Planning: \$ 1.1 million
- Interagency: \$ 310,000

Expenditure Detail by Category, Sub-Category, and Project (\$000s)

Run Date: 06/26/2014 11:36 AM

	Total	Thru FY13	Est FY14	6 Year Total	FY 15	FY 16	FY 17	FY 18	FY 19	FY 20	Beyond 6 Yrs	Approp.
Conservation of Natural Resources												
Storm Drains												
Storm Drain General (P500320)	14,575	9,471	88	5,016	800	800	854	854	854	854	0	1,600
Sonoma / Ayr lawn Storm Drain Improvements (P500509)	* 3,401	3,399	2	0	0	0	0	0	0	0	0	0
Town of Chevy Chase Storm Drain Improvements (P500808)	* 3,262	3,027	235	0	0	0	0	0	0	0	0	0
Maple Avenue Storm Drain & Roadway Improvements (P501100)	* 1,620	592	1,028	0	0	0	0	0	0	0	0	0
Henderson Avenue Storm Drain & Roadway Improvement (P501108)	* 2,270	1,501	769	0	0	0	0	0	0	0	0	0
Facility Planning: Storm Drains (P508180)	6,364	4,427	277	1,660	250	250	290	290	290	290	0	250
Glen Echo Storm Drain (P509637)	* 630	630	0	0	0	0	0	0	0	0	0	0
Outfall Repairs (P509948)	8,057	4,451	906	2,700	426	426	462	462	462	462	0	426
Storm Drain Culvert Replacement (P501470)	8,700	0	1,500	7,200	1,200	1,200	1,200	1,200	1,200	1,200	0	1,200
Storm Drains	48,879	27,498	4,805	16,576	2,676	2,676	2,806	2,806	2,806	2,806	0	3,476
Stormwater Management												
SM Facility Major Structural Repair (P800700)	31,735	4,809	3,856	23,070	7,530	3,540	3,000	3,000	3,000	3,000	0	7,631
SM Retrofit - Government Facilities (P800900)	27,819	7,688	2,399	17,732	3,026	2,816	2,820	3,270	2,900	2,900	0	3,026
SM Retrofit - Roads (P801300)	111,815	392	13,003	98,420	12,740	14,080	26,320	16,010	15,170	14,100	0	7,440
SM Retrofit - Schools (P801301)	26,455	168	1,357	24,930	3,470	6,280	3,480	3,900	3,900	3,900	0	7,161
Misc Stream Valley Improvements (P807359)	48,913	1,540	4,800	42,573	6,393	5,440	9,640	8,900	6,100	6,100	0	6,936
SM Retrofit: Countywide (P808726)	166,690	4,046	16,174	146,470	18,726	22,968	23,408	23,732	27,696	29,940	0	17,121
Facility Planning: SM (P809319)	17,497	8,160	937	8,400	1,150	1,250	1,350	1,450	1,550	1,650	0	1,150
Watershed Restoration - Interagency (P809342)	6,972	4,774	138	2,060	310	350	350	350	350	350	0	0
Stormwater Management	437,896	31,577	42,664	363,655	53,345	56,724	70,368	60,612	60,666	61,940	0	50,465
Ag Land Preservation												
Ag Land Pres Easements (P788911)	13,439	2,335	5,215	5,889	1,251	873	896	924	954	991	0	-5,376
Ag Land Preservation	13,439	2,335	5,215	5,889	1,251	873	896	924	954	991	0	-5,376
Conservation of Natural Resources	500,214	61,410	52,684	386,120	57,272	60,273	74,070	64,342	64,426	65,737	0	48,565

New Contracting Mechanisms

○ MS4 Implementation Contract

- Program Management contract to supplement staff and provide program management services
- One contractor

○ Water Resources Engineering Contract

- Eight design firms
- Allow DEP to issue more work

Projects and Costs

- Actual Costs (\$millions):

- FY10 3.4 FY11 5.4 FY12 10.6 FY13 11.0 FY14 19.8
- Total 50.6

- Actual acres treated through FY14 (June 2014)

- Completed restoration: 416 impervious acres
- Projects under construction: for 130 impervious acres
- Projects in design: 2,238 impervious acres
- Total: 2,782 acres (does not include partner projects, Redevelopment and other credits)
- Baseline being re-evaluated

Bonds

- Issued revenue bonds backed by WQPC revenue in 2012 for \$40 million
- Second issue preliminarily scheduled for June 2015

Traditional Stormwater Retrofits



**Rock Creek- Turkey Branch
Peppertree Pond Retrofit**



Environmental Site Design (ESD)—getting to the source

- Small scale stormwater management
- Non-structural techniques
- Conserve natural features
- Minimize impervious surfaces
- Slow down runoff
- Infiltrate and evapotranspirate



Typical Detention Pond

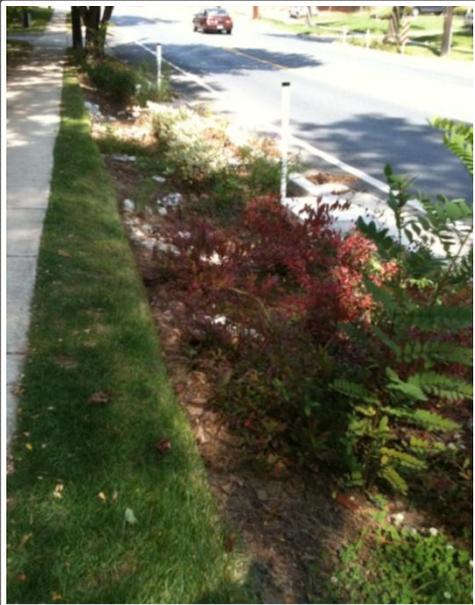


Micro-scale ESD Practice

Green Streets and RainScapes: Getting to the Source

Urban Stormwater Management

- Slow It Down
- Spread It Out
- Soak It in



Green Streets – Look like gardens, work like a stormwater treatment plant

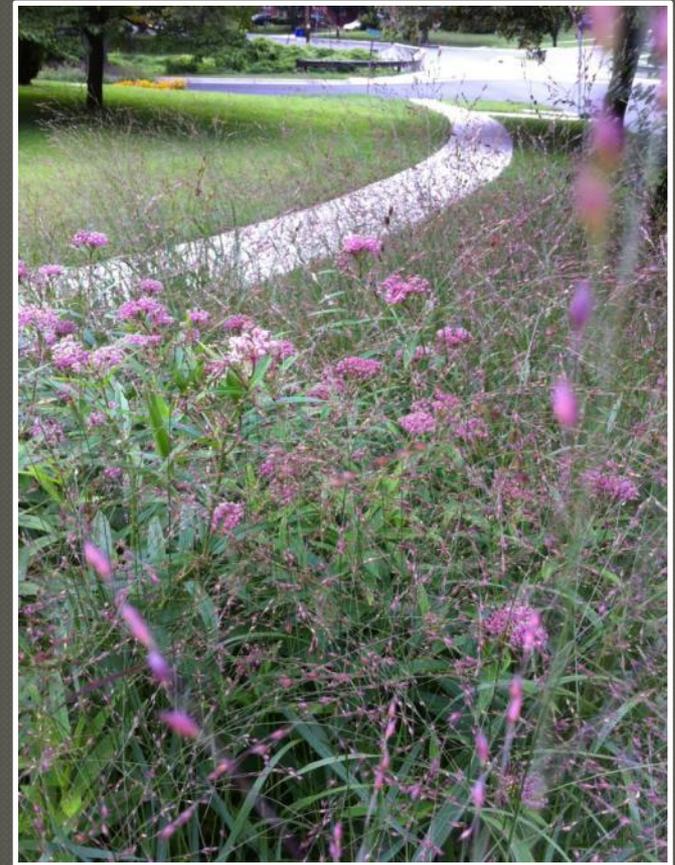


Bioswales



Falls Grove Shopping Center – Shady Grove

ROW and Private lot projects work together to form Green Infrastructure system



Forest Estates

Forest Estates



Arcola Ave. Right of Way Low Impact Development



Roadway Retrofits Benefit Both DEP and DOT

DEP Benefits

- ◉ **Water Quality provided for County Roads, which account for 1/3 of impervious surfaces**
- ◉ **Helps the County meet MS4 permit requirements**
- ◉ **Reduces pollutant loads from roads which are a major source**
- ◉ **Allow for a systematic approach to roadway retrofits and reduce implementation time**

DOT Benefits

- ◉ **Repairs of Storm drain infrastructure during construction of retrofits**
- ◉ **Improved public acceptance of traffic calming measures by also providing water quality benefits**
- ◉ **Provides additional “Tools” to fix problems with drainage, on-street parking, traffic calming, etc.**
- ◉ **Opportunity for DOT to look “Green” at no significant cost**

Batchellors Run East



Before



After

8 things you can do to improve and protect our streams.



1. Pickup Pet Waste

Marked Storm Drains



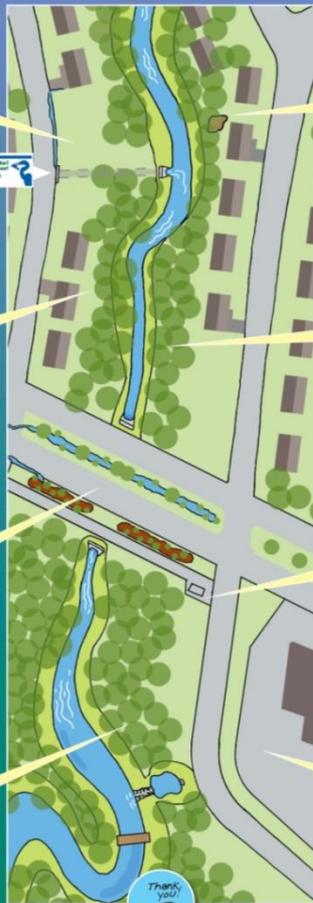
2. Change Lawn Care Habits



3. Encourage Green Streets



4. Plant Trees



5. Create Eco-Friendly Yards



6. Volunteer



7. Reduce Litter & Trash



8. Install Green Driveways & Parking Lots

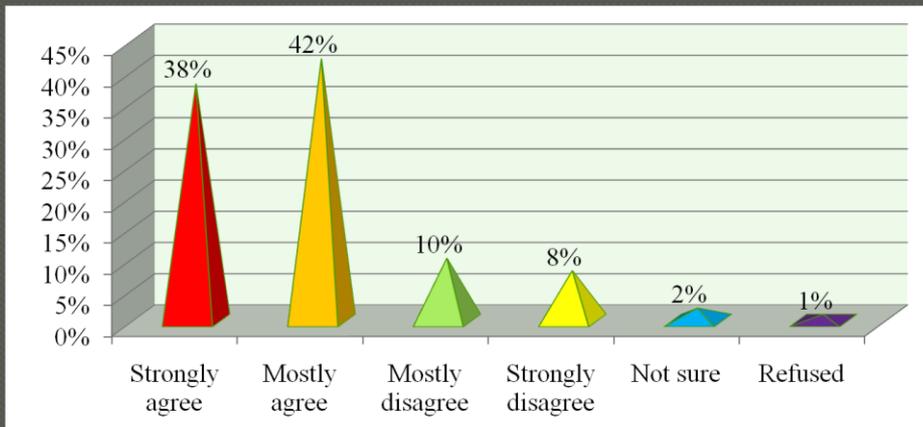
Public Outreach and Stewardship Workplan

- Required by MS4 Permit to enhance public participation
- Eight priorities to increase awareness, change behavior, and reduce pollutants
- Focus on Source Control: **Stop** pollution before it gets into the streams



www.montgomerycountymd.gov/dep

Watershed Restoration and Outreach Grant



Q.9 Changing my own behavior will help reduce the impacts of global warming and other environmental problems, such as air and water pollution.

- Facilitate our local stakeholders in helping the County meet water quality improvement goals
- Encourage partnerships among residents, businesses, and community groups
- Focus on private property since the majority of land without stormwater management is not publicly-owned or managed
- Require sustainability, not just one-time demonstration projects

Watershed Restoration and Outreach Grant



- Contract with Chesapeake Bay Trust
- About \$350,000 in FY14 and \$270,000 in FY15
- 3 project types, up to \$50,000 per project
 - Stewardship (*e.g. litter reduction, pet waste management*)
 - Larger projects (*permit for construction required*)
 - RainScapes Neighborhoods (*no permit required*)
- 1st cycle closed on December 4, 2014
- Applications under review
 - CBT, Watershed Management, and external subject matter experts
- Announce awards in February, 2015

Questions?

