

Mills Farm Stormwater Pond Retrofit



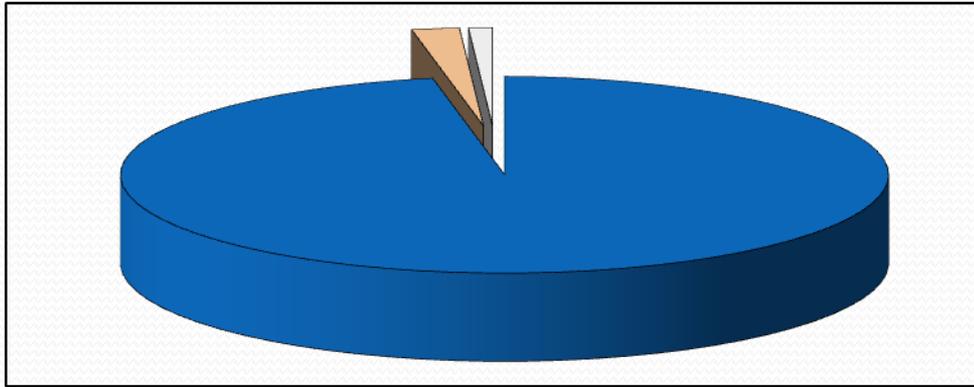
Don Dorsey, Watershed Planner
Mike Lichty, Engineer

Montgomery County Department of Environmental Protection
Watershed Management Division
Pond Sequence Number 886

Today's Agenda

- Sources of Water on Earth
- Montgomery County background
- What is a Watershed & Runoff?
- Intro to Stormwater
- What the County is Doing to Protect Our Streams
- Goals of the Project
- Proposed Retrofit of the Pond
- Trees proposed to be saved and removed
- Health of those trees to be removed
- Questions/Comments

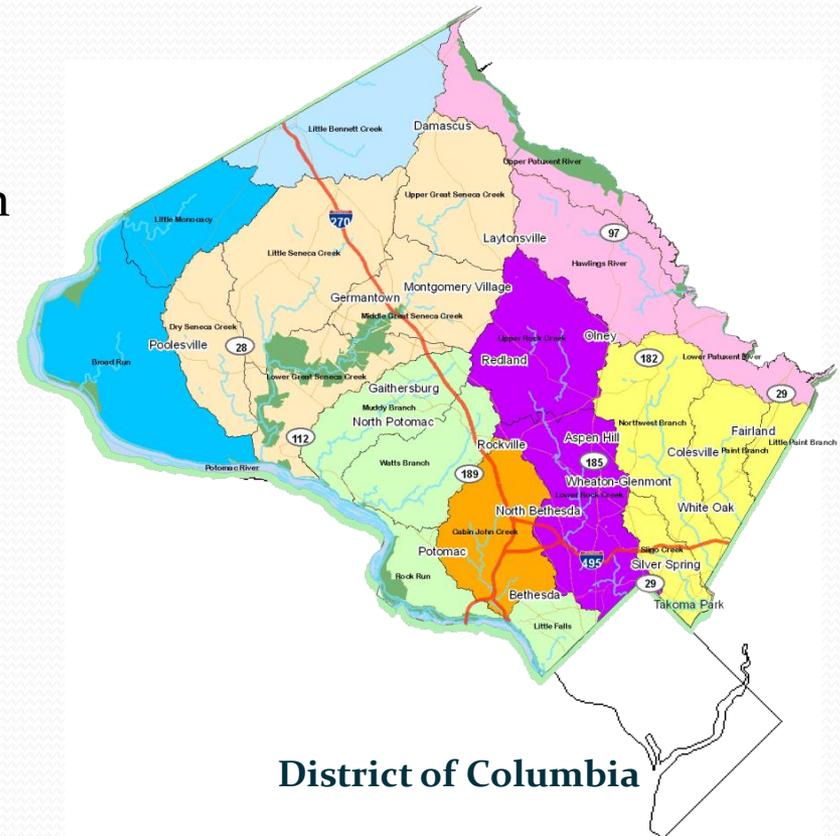
Sources of Water



- About 97% is salt water
- About 2% is frozen
- Only 1% is available for drinking water
 - 95% from groundwater across the Country
 - 32% from groundwater, 68% from surface water in Maryland
 - Potential for greater impacts from runoff in Maryland

Montgomery County, MD

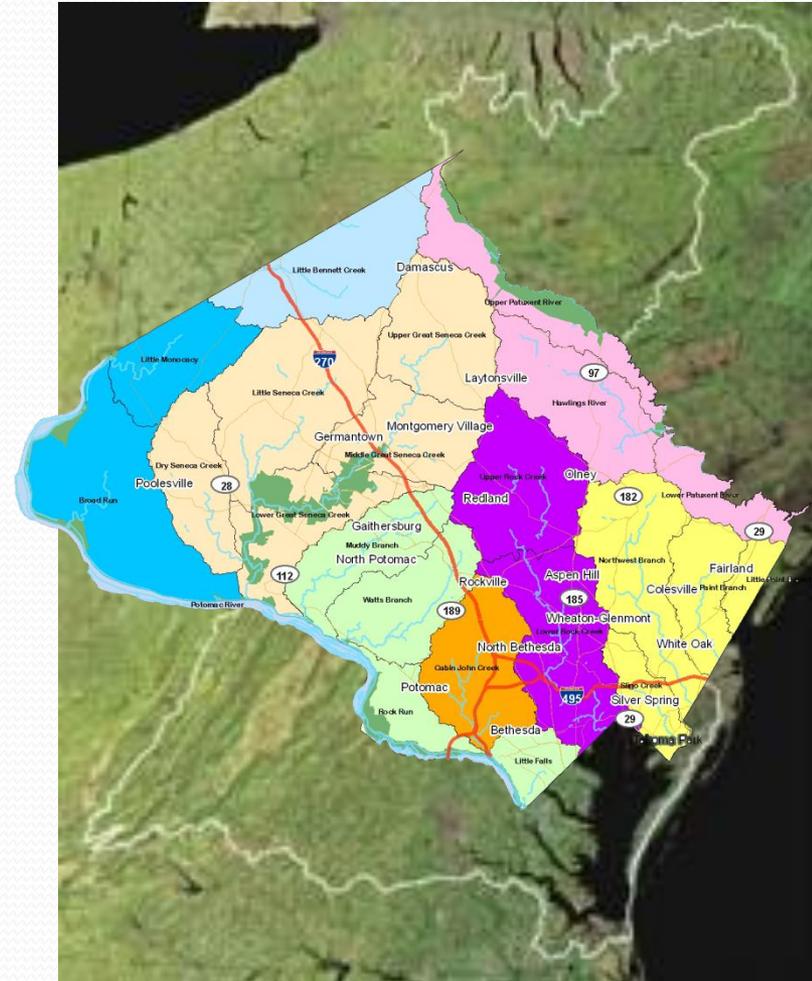
- 500 sq. miles
- 970,000 people
 - Second only to Baltimore City within Maryland in average people per square mile
 - 184 languages spoken
- About 12% impervious surface overall
 - About the size of Washington DC
- Over 1,500 miles of streams
- Two major river basins:
 - Potomac
 - Patuxent
- Eight local *watersheds*



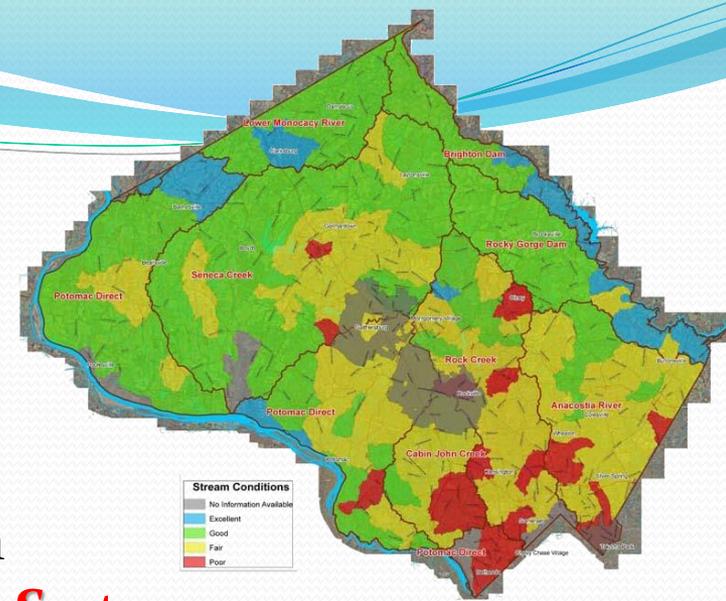
Impervious: Not allowing water to soak through the ground.

What is a Watershed?

- A *watershed* is an area from which the water above and below ground drains to the same place.
- Different scales of watersheds:
 - Chesapeake Bay
 - Eight local watersheds
 - Neighborhood (to a storm drain)



What is the County doing to protect our Streams?



- Must meet regulatory requirements
 - Federal Clean Water Act permit program
 - **MS4 = Municipal Separate Storm Sewer System**
- Applies to all large and medium Maryland jurisdictions
- County programs
 - Restore our streams and watersheds
 - Add runoff management
 - Meet water quality protection goals
 - Reduce pollutants getting into our streams
 - Educate and engage all stakeholders
 - Individual actions make a difference
 - Focus on watersheds showing greatest impacts

MS4 permit, what is it?

- Montgomery County is responsible for:
 - What goes into our storm drain pipes
 - What comes out of them
 - What flows into the streams
- Requires additional stormwater management for **20 percent** of impervious surfaces (4,292 acres = 6.7 square miles). That's about three times the size of Takoma Park.

Goals of the Project

- Capture more “peak-flow” runoff from Impervious Surfaces (Rooftops/Driveways/etc.) within the Stormwater Pond, also called Channel Protection Volume (Cpv)
 - Flows are evaluated to ensure no upstream houses are flooded
- Create a Permanent Pool to Capture Nutrients
 - Aquatic plants within and along the perimeter of the permanent pool will help absorb nutrients and provide a balanced aquatic ecosystem.
 - May Attract Red Winged Black Birds
 - Aquatic ecosystem will have a balance of prey (mosquitoes) vs. predator species.
 - Referred to as Water Quality Volume (WQv)

Mosquito Predators

- **Non-Biting Midge**
- **Diving Beetle**
- **Damselfly Larvae**
- **Backswimmers**
- **Water Scorpion**
- **Dragonfly Nymph**
- **Phantom Midge**
- **Water Strider**
- **Swallows, Adult Dragonflies, Frogs**



Proposed Pond Design



CONTACT PERSON:

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 MONTGOMERY COUNTY DEPARTMENT
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 235 ROCKVILLE PIKE
 ROCKVILLE, MD 20850
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THIRD CENTURY
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 10710 GILBOY ROAD
 HUNT VALLEY, MD 21081

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CALL "MISS UTILITY" AT 1-800-267-7777, 48 HOURS PRIOR TO THE START OF WORK. THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDERGROUND FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION. THE EXCAVATOR IS RESPONSIBLE FOR COMPLIANCE WITH REQUIREMENTS OF CHAPTER 38A OF THE MONTGOMERY COUNTY CODE.

DATE	ISSUES/REVISIONS

**MUDDY BRANCH
 SWM RETROFIT
 TASK ORDER 22
 30% CONCEPT DESIGN**

POTOMAC (10TH) ELECTION DISTRICT
 MONTGOMERY COUNTY, MARYLAND

**MILLS FARM
 POND GRADING PLAN**

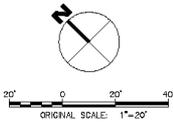
PROJECT NO.	SCALE		
252273.20	1" = 20'		
DATE	BY	CHKD.	DATE
10/03/2013			
NO.	DATE	BY	CHKD.

Trees Proposed to be Saved/Removed



LEGEND

- PROPERTY BOUNDARY
- EXISTING CONTOUR
- EXISTING STORMDRAIN
- LIMITS OF DISTURBANCE
- 6" TO 23" TREE TO REMAIN
- 24" OR GREATER TREE TO REMAIN
- 6" TO 23" TREE TO BE REMOVED
- 24" OR GREATER TREE TO BE REMOVED



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CENTURY ENGINEERING CONSULTING ENGINEERS PLANNERS 3070 GILROY ROAD HUNT VALLEY, MD 21081	
Blohabitats, Inc. The Habitat Building 2891 Clippes Post Road Baltimore MD 21241 tel: 410.284.6700 fax: 410.284.2700 www.blohabitats.com	
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DATE	ISSUES/REVISIONS
JANUARY 2013	30 %
MUDDY BRANCH SWM RETROFIT TASK ORDER 20 30% CONCEPT DESIGN	
POTOMAC (10 TH) ELECTION DISTRICT MONTGOMERY COUNTY, MARYLAND	
MILLS FARM TREE DELINEATION	
PROJECT NO.: 20270.20	SHEET NO.: 20
DATE: 01/15/13	CREATED BY: CL
SCALE: AS SHOWN	DATE PLOTTED: 01/15/13
1 OF 1	



Questions/Comments?

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www.montgomerycountymd.gov/watershedrestoration

Click on -->Stormwater Pond Retrofits