

# Stormwater at the Edge of Town: Urban BMPs in a Sharing Economy

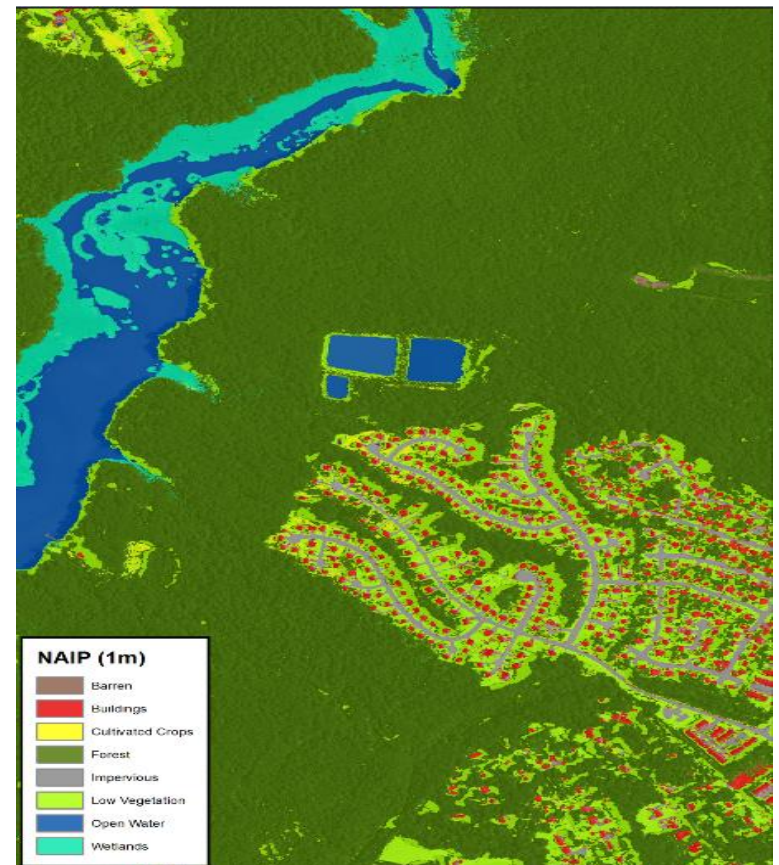
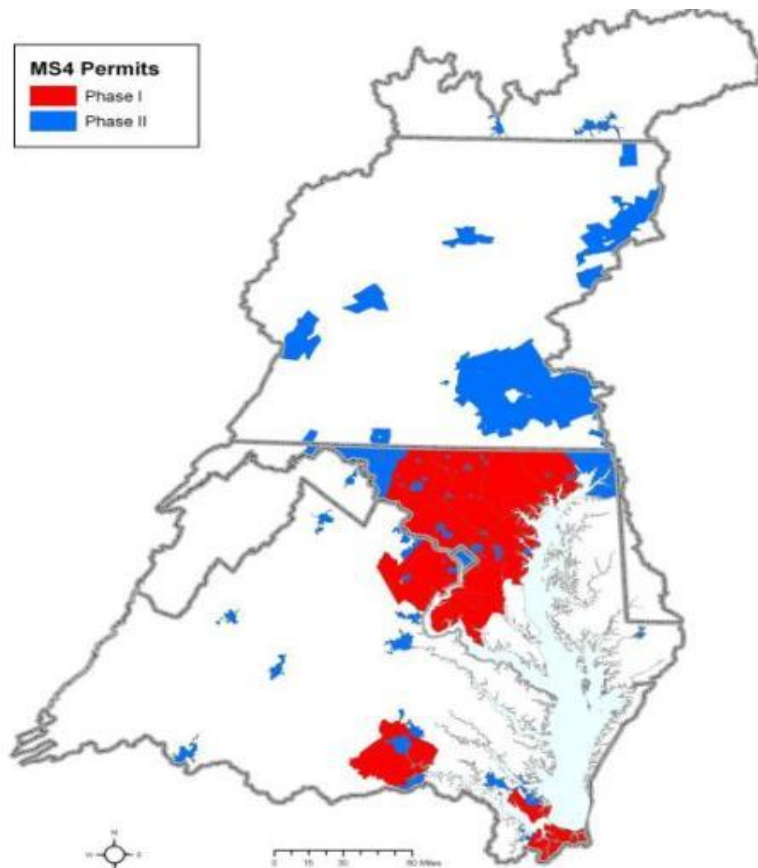
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Views and opinions expressed are solely those of the  
Chesapeake Stormwater Network.

# Presentation Outline

- The Nature of the Problem
- Challenges Small Communities Face in Bay Restoration
- Air-BMP
  - Inter-Sector BMP "Trading" Between Small and Large Communities
- Next Steps

# Non-Regulated Urban Land in the Bay Watershed



**Percent of Developed Land in Chesapeake Bay Watershed  
By Regulatory Category <sup>1</sup>**

Bay State	<i>Non-Regulated <sup>2</sup></i>		<i>MS4 Permittees <sup>3</sup></i>		<i>Combined Sewer <sup>4</sup></i>	
	%TC <sup>5</sup>	%IC <sup>6</sup>	%TC	%IC	%TC	%IC
DE	63	26	7	4	0	0
DC	5	6	22	30	8	27
MD	18	7	47	29	>1	>1
NY	54	32	6	5	1	1
PA	52	21	13	9	2	3
VA	48	22	16	15	>1	>1
WV	54	17	18	9	1	1
BAY Average	42%	18%	18%	14%	2%	5%

<b>Challenges: Pollutant Reduction Mandate?</b>	
<i>Small MS4 Communities</i>	<i>Non-Regulated Communities</i>
Only two Bay states (PA/VA) have established numeric pollutant reduction requirements for existing development in Phase 2 MS4 permits to date (MD has them pending)	No legal requirement to compel them to reduce loads from existing development or operate a local stormwater program to reduce loads from new development

<b>Challenges: State Stormwater Regulations</b>	
<i>Small MS4 Communities</i>	<i>Non-Regulated Communities</i>
Need to operate a local post-construction stormwater program, but few specific requirements on how to inspect or maintain local BMPs	ESC and SWM may be required by state law or general permit, but locality generally has no authority to review or approve stormwater BMPs for new development

<b>Challenges: Stormwater BMP Reporting</b>	
<i>Small MS4 Communities</i>	<i>Non-Regulated Communities</i>
Usually through annual MS4 reports, although some states have reporting databases that localities can submit data to. Usually a voluntary option.	No local requirement to report the BMPs that are implemented (by others) within their jurisdiction, nor an easy mechanism to do so, even if they wanted to

<b>Challenges: Stormwater BMP Tracking</b>	
<i>Small MS4 Communities</i>	<i>Non-Regulated Communities</i>
May have a storm drain map and local BMP inventory, but lack the budget to track local BMPs in their community. May have limited GIS mapping capability	Tracking BMPs is not currently considered a standard DPW function. May consist of paper files only. Some tracking may be done by soil conservation districts or others

# Key Findings

- Hi Prevalence of small MS4s and non-regulated areas in the Bay watershed
- Combined with the severe restoration challenges they face
- *Make it difficult, if not impossible, for many Bay states to install enough BMPs to meet their current nutrient reduction goals for the urban sector.*
- New BMP implementation strategies are needed to support restoration capacity for smaller communities.

# A Proposed Approach to Solve the Problem

- Inter-Sector BMP "Trading" between  
Small and Large Communities



# Rapid Municipal Assessment

- Rapid desktop assessment of:
  - local land development regulations,
  - municipal operations and
  - public land management
- to determine if they generate "creditable" BMPs, and helps:
  - Organize a community to clean up local waters and restore the Bay,
  - Serve as a "prospectus" for larger communities to decide whether there are advantageous BMP investments to be made in the smaller community.

# "Air-BMP": Concept for Inter-sector BMP Trading

Both regulated and non-regulated communities have strong incentives to trade or share the rights to install, inspect, maintain and verify local BMPs. In concept, the market would work as follows:

- Un-regulated communities are the BMP "sellers" in the market place.
- Regulated communities are the primary BMP credit "buyers" in the market.
- Foundations are essentially the market "creators"
- Technical service providers are independent and can craft the specific "rules" for BMP crediting and trading and act as the market "referee"
- State and federal regulators sanction and endorse a pilot inter-sector BMP trading market.
- Private sector consultants are hired by do most of the actual BMP implementation work

# Inter-sector BMP trading (or sharing)

- Inter-sector BMP trading meets economic criteria for a successful and efficient market in the real world:
- The BMP trades cover several phases of BMP implementation -- initial credits for BMP construction, credits for ongoing BMP maintenance and credits for inspections to verify BMP to extend credit duration.
- BMP trades are eligible between non-regulated and regulated communities (or their designated private sector P3 firms), and between Phase 1 and Phase 2 MS4 communities)
- BMP trades can be in cash for construction, or more commonly, as contributed staff or contracting services that larger communities provide to small communities
- BMP trades can only occur within a small geographically-defined market -- the land river segment boundaries established by the CBP for the Phase 6 Watershed Model.

# More on Inter-Sector BMP Trading

- The BMP trades occur within the urban sector and follow common rules for urban BMP crediting previously approved by the CBP partnership (i.e., definitions, qualifying conditions, delivered loads, protocols to define removal rates, credit duration and BMP verification procedures).
- Most communities already engage in inter-municipal legal arrangements that allow them to collaborate to build and maintain restoration projects that are eligible for BMP trades.
- Most trading schemes that are proposed founder on the rocks of watershed equity, but this should not be a major issue for inter-sector BMP trades.
- If equity concerns are still a problem, the simple solution would be to establish a BMP trading cap within a regulated community. This would ensure a minimum percentage of all BMPs are installed locally (e.g., no more than 25% of local load reduction allocation can be traded out of the municipality).

# Key Questions for TOWG

- What are the mechanics of trading within the same sector?
- What are some likely problems associated with inter-municipal trading?
- Does it fit with the current trading rules within each Bay state?
- Or do new rules need to be developed for it?