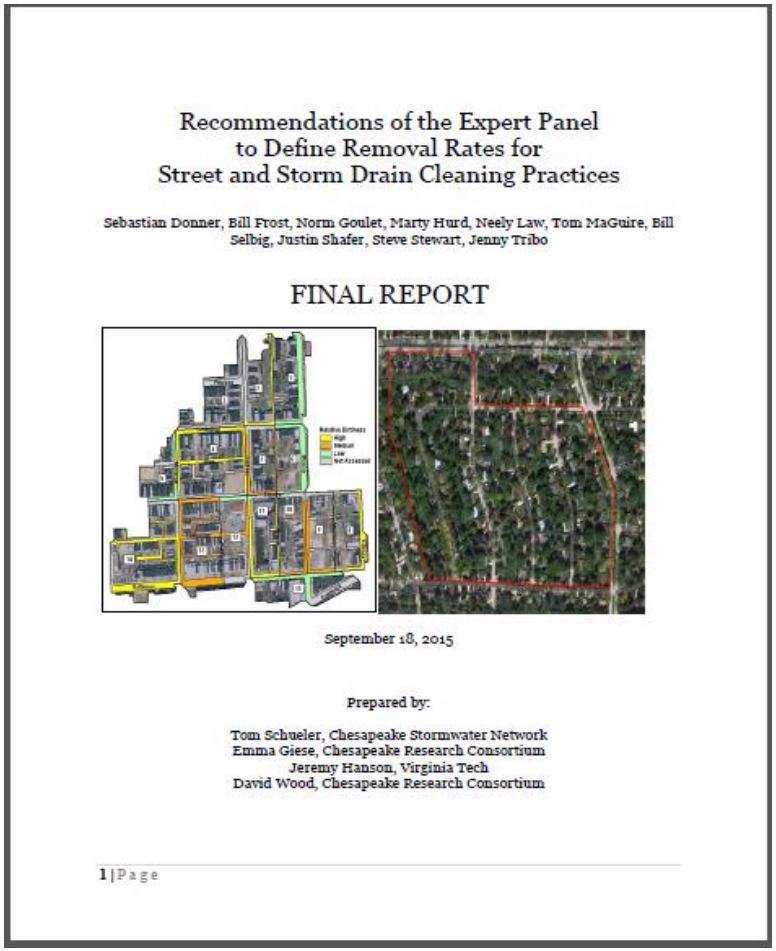
Street Sweeping & Storm Drain Cleaning Expert Panel Report



Recommendations of the Expert Panel
to Define Removal Rates for
Street and Storm Drain Cleaning Practices

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FINAL REPORT

September 18, 2015

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Water Quality Goal Implementation Team

Presentation Outline

A. Chronology of Expert Panel
B. Street Cleaning Credit
C. Storm Drain Cleaning Credit
D. Reporting, Tracking and Verification
E. Why Panel Rejected the Mass Loading Approach
F. Consideration of VADEQ Proposal

Street Cleaning Review Process

Chesapeake Bay Program
A Watershed Partnership

8/15 Coordination with CBPO Modeling Team

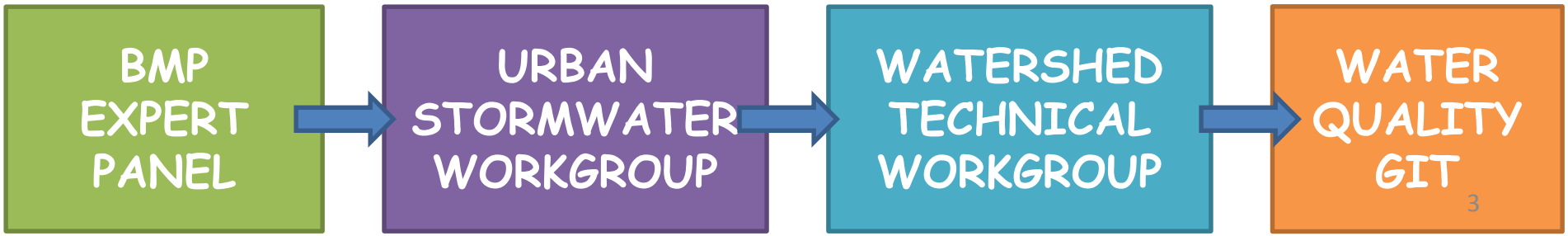
9/15 Expert Panel Reaches Consensus

9/15 Debut Webinar

9/15 Start of 30 Day Comment Period

10/15 Presented to Urban Work Group

11/15 Revised Report and Response to Comments RTC) Prepared



Review Process
continued

11/15-1/16 Calls/Meetings with MDE and PADEP

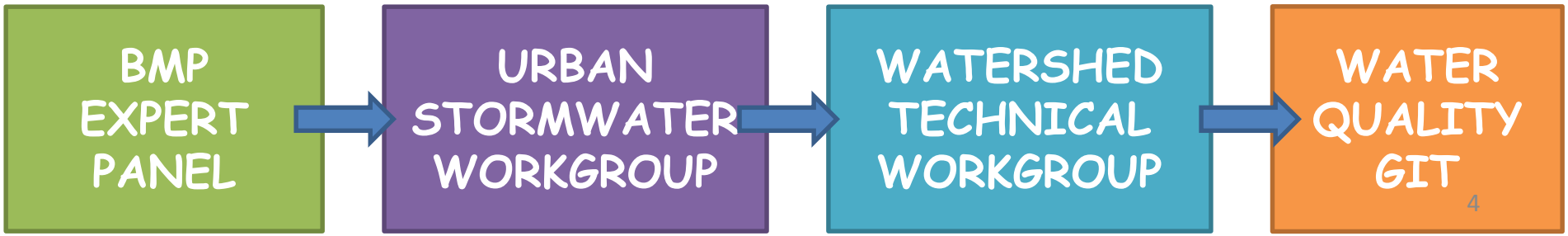
1/16 Third Draft of Panel Report and Second Version of Response to Comments

1/16 Approved by USWG w/VADEQ Objections

2/16 Presented to WTWG (No Action)

2/16 Comment Deadline Extended

3/16 Third version of RTC and Second Version of Scenario Builder



Review Process
continued

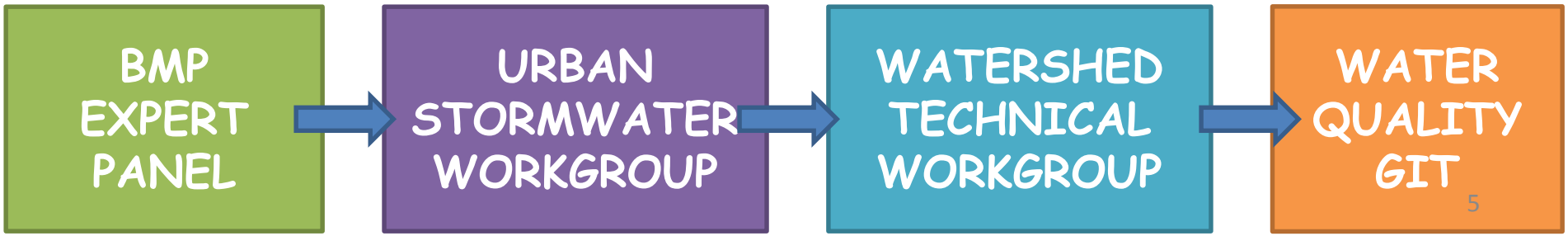
3/16 'Decisional" WTWG Meeting. 5 of 6 VADEQ/MDE Objections Satisfied.

Mass Loading Objection Unresolved

Lacking consensus, bumped up to WQGIT

3/25 VADEQ Releases Proposal for "SCP-12"

March 28. WQGIT meeting



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Non-panelists that contributed to the panel's discussions: Ken Belt, US Forest Service; Roger Bannerman, Wisconsin Department of Natural Resources; Matt Johnston, UMD/CBPO; Jeff Sweeney, EPA/CBPO. Special thanks to David Woods and Emma Giese for their panel support		

Street Cleaning Credit

- The standard unit is curb miles swept
- One impervious acre is equal to one curb-lane mile swept on one-side only
- Credits provided for 11 street cleaning practices (SCPs)
- Credit must be calculated every year

Pollutant Reductions Associated with Different Street Cleaning Practices

Practice #	Description [1]	Approx Passes/Yr [2]	TSS Removal (%)	TN Removal (%)	TP Removal (%)
SCP-1	AST- 2 PW	~100	21	4	10
SCP-2	AST- 1 PW	~50	16	3	8
SCP-3	AST- 1 P2W	~25	11	2	5
SCP-4	AST- 1 P4W	~10	6	1	3
SCP-5	AST- 1 P8W	~6	4	0.7	2
SCP-6	AST- 1 P12W	~4	2	0	1
SCP-7	AST- S1 or S2	~15	7	1	4
SCP-8	AST- S3 or S4	~20	10	2	5
SCP-9	MBT- 2PW	~100	0.7	0	0
SCP-10	MBT- 1 PW	~50	0.5	0	0
SCP-11	MBT- 1 P4W	~10	0.1	0	0

AST: Advanced Sweeping Technology

MBT: Mechanical Broom Technology

The Storm Drain Cleaning Credit

- Sediment and nutrient credit for solids that are directly removed from catch basins, storm drain pipes or are collected at the outfall, based on the dry weight of the mass of solids collected, using a default nutrient enrichment factor (or a locally derived one).
- Numerous qualifying conditions
- Very few Bay communities clean out frequently enough to earn credits

Reporting,Tracking and Verification

Panel recommendations are advisory in nature, and are not binding on any state. Individual Bay states can provide alternate verification methods, as long as they satisfy the general verification principles agreed to by the Chesapeake Bay Program Partnership (CBP, 2014).

Street Cleaning Reporting

Annual Reporting of:

Total qualifying lane miles swept in the community each year that correspond to the appropriate SCP category,

Provide general lat/long coordinates for
(a) centroid of jurisdiction, or
(b) midpoint of sweeping route, or
(c) 12 digit HUC watershed address

Why the Mass Loading Street Cleaning Credit is Being Phased Out

- The last expert panel recommended an alternate street cleaning credit that relies on the dry mass of street solids picked up by the sweeper fleet
- Never a good idea to provide two methods that may give different answers to the same question.

Photo Credit: Kalinsoky

Prior Street Sweeping Panel Recommendation (2010)

Method 1: Mass loading approach, calculates sediment and nutrient removal based on the mass picked up by the sweeper fleet, with an adjustment for particle size

Method 2 : Qualifying street lanes method.

Percent Removal			
Technology	TSS	TP	TN
Mechanical	10	4	4
Regenerative/Vacuum	25	6	5

Both methods only apply to streets that are swept biweekly (26 times per year) or more frequently.

Why the panel rejected the mass loading approach (aka hopper credit)

- The WINSLAMM modeling provides better support for the curb lane miles swept approach
- Eliminates the possibility that users will "shop" for the method that gives them the most credit.
- Hopper data is still used to calculate and verify the storm drain cleaning credit

The Mass Loading Credit has a bad history when it comes to reporting sweeping history

mmary of Street Cleaning Implementation, 2009-2014, as reported and credited in annual progress runs (acres and **lbs**)

YEAR	DC	DE	PA	WV	VA
2009	1 ac			**218,000 lbs**	**632 ac**
2010	1,631 ac			**227,000 lbs**	
2011	1,540 ac		619 ac		**75,385,792 lbs**
2012	1,539 ac		413 ac		
2013	1,526 ac	**79,541 lbs**	**3,240,489 lbs**	**190,000 lbs**	**218,677 lbs**
2014	1531 ac	**413,367 lbs**	**3,367,040 lbs**	**700,000 lbs**	**426,671 lbs**
2015	1532 ac	**1,148,477 lbs**	**3,367,048 lbs**	**190,000 lbs**	**5,832,973 lbs**

Other Issues w/ the Old Mass Loading Approach

- Many communities do not meet all the qualifying conditions to earn the credits under the old mass loading approach (e.g., use of advanced technology, biweekly or more frequent sweeping, forget to take the delivery discount).

- The panel found numerous instances where communities were significant over-claiming the sediment and nutrient load reductions either because they did not fully understand the qualifying conditions, or felt that VADEQ had exempted them from the sweeping frequency requirements in their most recent guidance for MS4s (May 18,2015 VA DEQ Memo on TMDL Action Plan Guidance, p. 5)

Sense of the Panel

- The Panel considered many different versions of the mass hopper credit during its two years of deliberations, but never agreed on any because no method proposed could overcome the fundamental reporting and verification limitations with respect to sweeping technology and frequency

Discussion