

Lessons Learned from the Expert BMP Panel Process That May Apply to MTDs

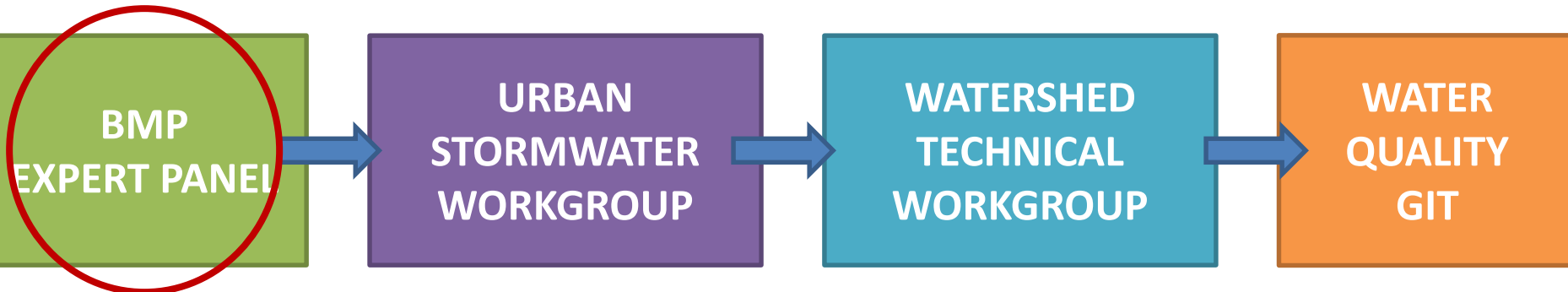
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Recent Expert Panels



1. Stormwater Retrofit Practices
2. New State Performance Standards for LID Practices
3. Urban Nutrient Management and State-wide Fertilizer Laws
4. Urban Stream Restoration
5. Homeowner BMPs
6. Enhanced Erosion and Sediment Control Practices
7. Shoreline Management and urban Filter Strips
8. Nutrient Discharges from Grey Infrastructure
9. Street and Storm Drain Cleaning



Current and Future Urban BMP Expert Panels

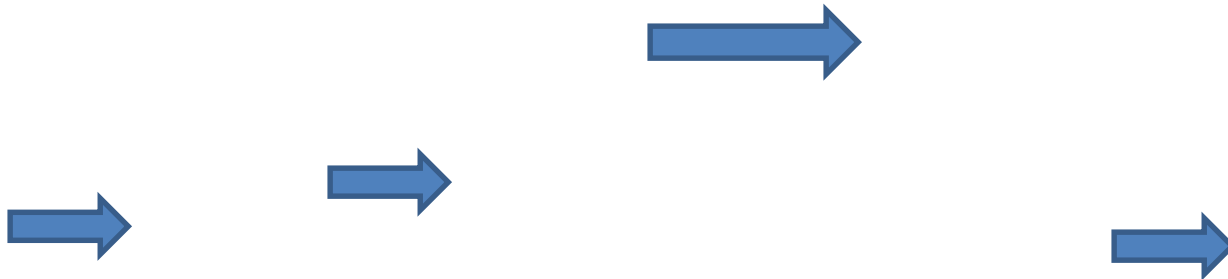


- Floating Treatment Wetlands
- Impervious Cover Disconnection
- MS4 Education and Outreach Efforts*
- Outfall Stabilization Practices *
- Performance Enhancements to Existing LID Practices

Typical Timeframe for the Expert Panel Process



- Secure consensus among the experts (12 to 24 months)
- Get through the rest of CBP approval process (averages 6 months to a year)
- So, plan on at least 2 to years to get them done
- No guarantee. Some panels may never cross the threshold for scientific literature or be unable to reach consensus

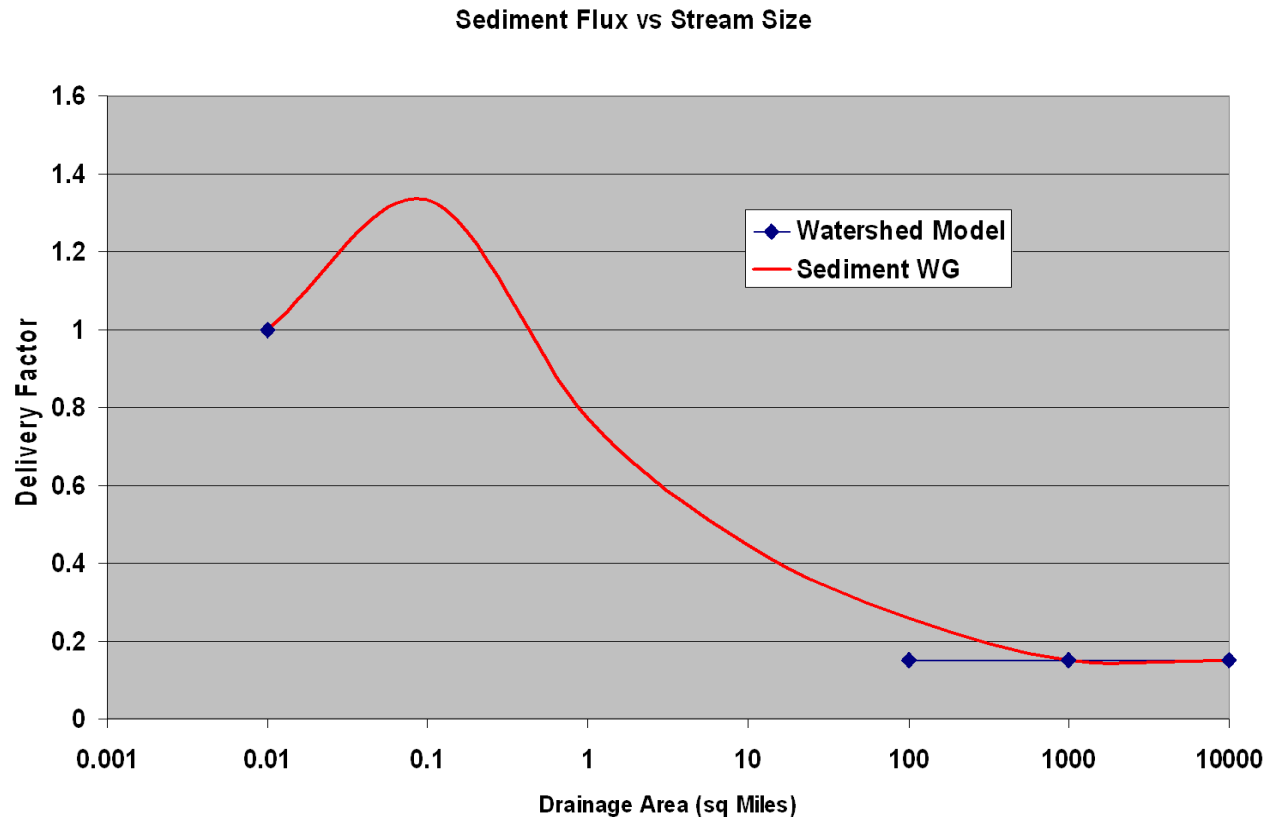


1. Process Must Deal W/ Chesapeake Bay Watershed Model

- Panel Recommendations Need to Be Integrated into the Bay Watershed Model:
 - Scale Issues: Delivery Ratios from the Site to the Chesapeake Bay
 - Existing vs. new practice...does it violate the calibration ?
 - Double counting issues (has another upstream BMP already removed it?)
 - Over -counting issues (Dealing w/ stormwater but neglecting groundwater)

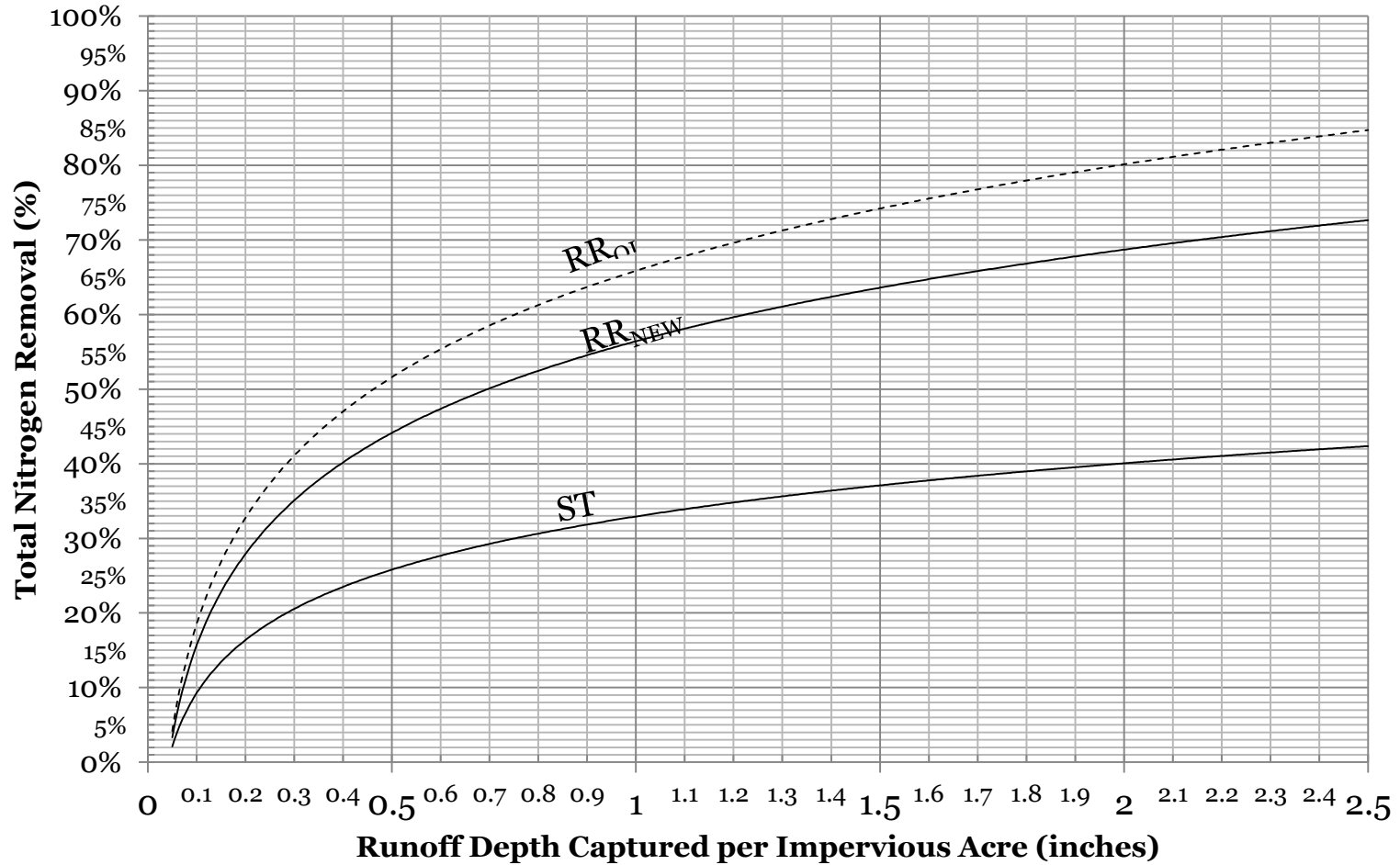
Scale: The Sediment Delivery Ratio from the Site to the Chesapeake Bay

Oops , my credit went down by 85%



A BMP that just treats stormwater is adjusted for bypassed groundwater

Total Nitrogen Removal for RR and ST Practices



The N curve was reduced to reflect on groundwater nitrate loss from runoff reduction practices

2. CBP BMP Panels Go Well Beyond Defining Percent Removal

- A Single Percent Removal Rate Does Not Apply to Most BMPs
- More Complex Protocols Are Used to Define Rates based on Site and BMP Characteristics
- Such Complexity Can Be Hard to Wire Into Bay Modeling Tools (especially Scenario Builder)



One Current Panel Is Evaluating Over 1000 BMP practice scenarios !!!

- 3 Sweeping Seasons
- 4 Street Types
- 2 Levels of Sweeper Technology
- 10 Different Sweeping frequencies (some seasonal)
- 4 combinations of street parking levels/controls

3. Our Old Urban BMP Problem

- Were intended to be supplanted by the protocols of the new state stormwater performance standards and urban retrofit expert panels in 2012.
- States have experienced a lot of difficulty in transitioning their BMP reporting systems to these new protocols
- These rates should go away for NEW BMPs, but may be needed to track legacy BMPs

The 2000-08 ERA BMPs

Approved CBP BMP Efficiency Rates for Stormwater BMP Analysis ³				
URBAN BMP		Total	Total	TSS
		Nitrogen	Phosphorus	
		MASS LOAD REDUCTION (%)		
Wet Ponds and Constructed Wetlands		20	45	60
Dry Detention Ponds		5	10	10
Dry Extended Detention Ponds		20	20	60
Infiltration		80	85	95
Filtering Practices (Sand Filters)		40	60	80
Bioretention	C & D w/UD	25	45	55
	A & B w/ UD	70	75	80
	A & B w/o UD	80	85	90
Permeable Pavement	C & D w/UD	10	20	55
	A & B w/ UD	45	50	70
	A & B w/o UD	75	80	85
Grass Channels	C & D w/o UD	10	10	50
	A & B w/o UD	45	45	70
Bioswale	aka dry swale	70	75	80

4. CBP BMP Panels Need to Define Reporting Tracking and Verification

- Need to define a fixed credit duration for each BMP and a defined process for verifying it in the field
- Contention over these issues has led to about 75% of the objections to panel reports, and delays most of them by six months or more
- A lot of state-specific issues to align among seven states

Performance Verification

Ensure BMP still exists and is providing the pollutant removal it was designed to achieve or if it requires major restoration

MS-4 Permit/
Bay TMDL

Once every
9 -10 years

Trained
evaluator



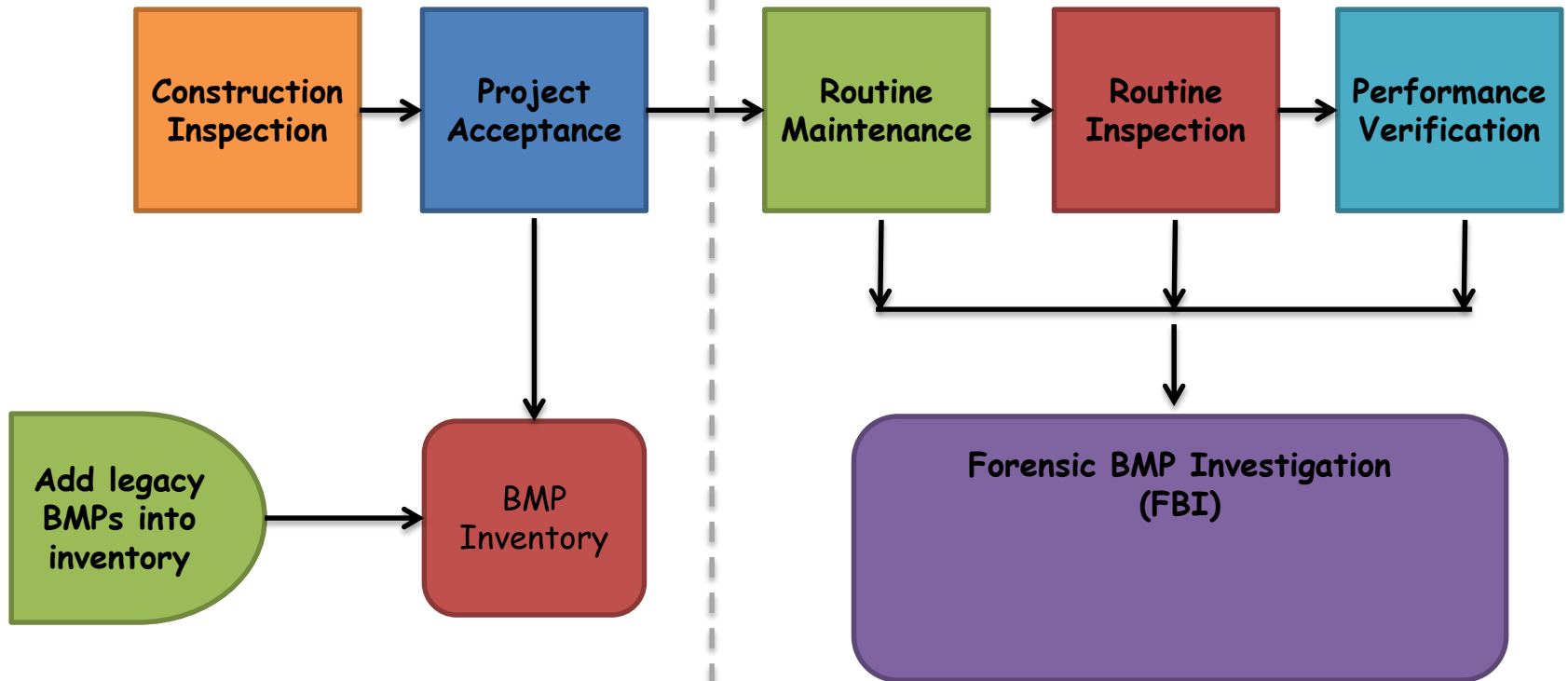
State
BMP
Reporting for
Bay TMDL



Facility
BMP
Inventory

Seemed like a simple concept at the time

But gets very complex at local level



Strategies to Get Credit for a MTD w/o going through Panel Process

1. Be able to classify your MTD practice as a RR or ST practice (helps if your design is volume-based rather than a flow rate basis)
2. Be able to group it w/ a non-proprietary practice (e.g., floating treatment wetland)
3. Retroactively classify it to an existing BMP panel report or an OLDE BMP
 - Example: Dry channel RCS as a stormwater retrofit, wet channel RCS as stream restoration practice

Still need to get approval through CBP, starting with USWG

Questions and Answers

