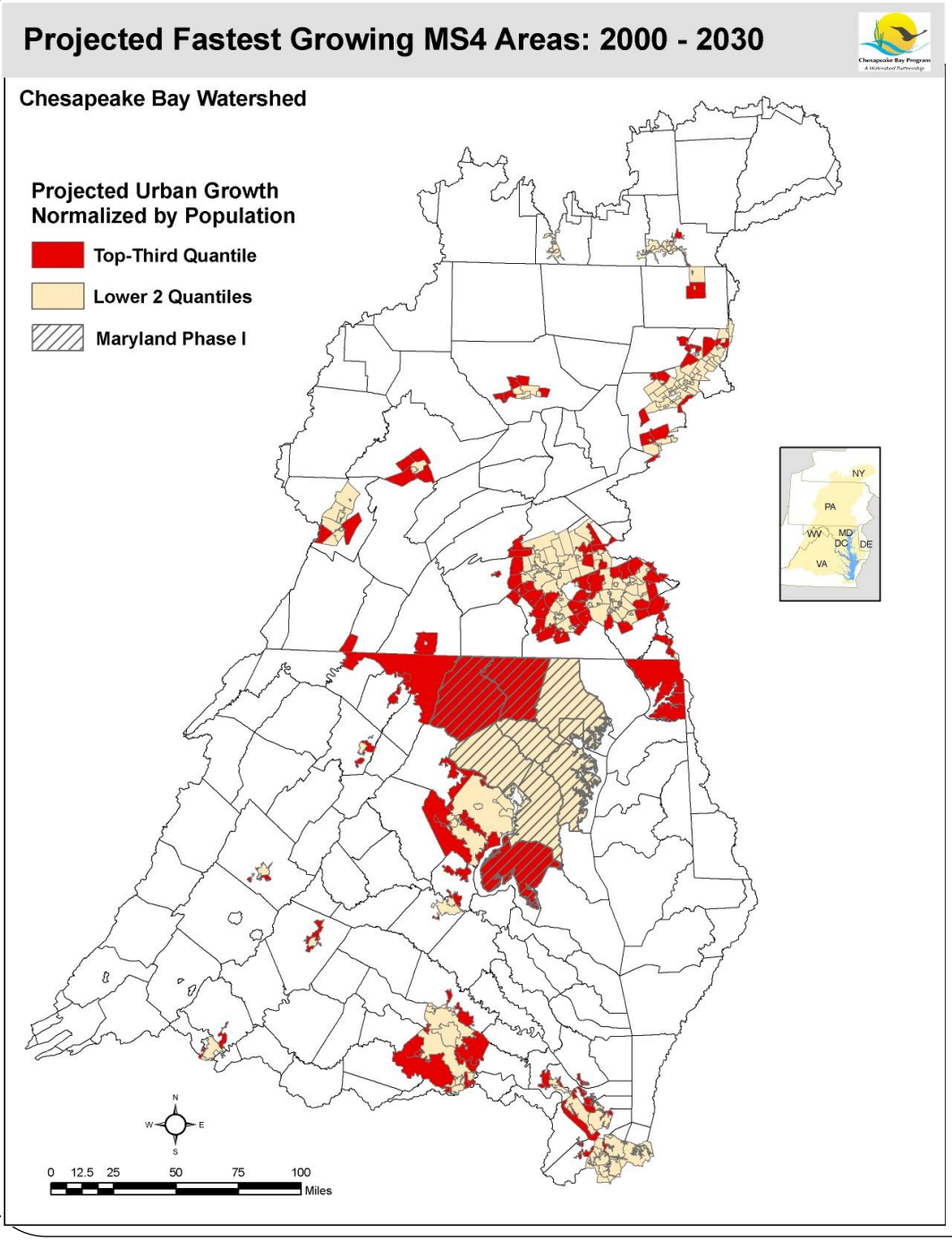
Draft Principles and Protocols for Urban



Stormwater Verification must operate in two worlds:

- Regulated Stormwater
- Unregulated Stormwater

Ability to Verify is Often Linked to Whether a community has a MS4 permit or not.

Verification for Urban BMPS

The need for verification differs among each type of BMP, but they can be generally classified into four broad categories:

- Traditional engineered stormwater BMPs that were historically installed through a local stormwater plan review process
- New runoff reduction BMPs that will be implemented to meet new state stormwater performance standards in the future and also go thru the local stormwater review process
- Non-structural or operational BMPs that are typically applied by a municipal agency
- Stormwater retrofits and restoration practices designed and installed by localities to treat existing impervious cover.

Role of Maintenance in BMP Performance

Regular inspections and maintenance of BMPs are critical to ensure their pollutant removal performance is maintained and extended over time.

Therefore, the core verification principle is to ensure that BMPs are installed and maintained properly over their design life to qualify for their pollutant removal rates

Utilize Existing MS4 Framework

The existing MS4 inspection and maintenance framework for hundreds of communities in the Bay watershed should be the foundation of any BMP reporting and verification system for the Bay TMDL.

Ongoing BMP reporting and maintenance inspections requirements in MS4 permits may need to be adjusted slightly to verify BMP performance, but the modifications should be limited to reduce the administrative burden for local and state agencies.

Removal Rate Tied to Visual Inspections

The basic concept is that urban BMPs will have a defined time-frame in which the pollutant removal rate applies

Credit can be renewed or extended based on a visual inspection that confirms that the BMP still exists, is adequately maintained and is operating as designed.

It is recommended that these rapid investigations be piggy-backed as part of routine stormwater BMP inspections required under their MS4 NPDES permits.

Sub-Sampling of Local BMP Inventory.

Localities may elect to reduce the scope of their visual inspections by sub-sampling a representative fraction of BMPs in their local BMP inventory (or target older BMPs whose performance may have diminished over time).

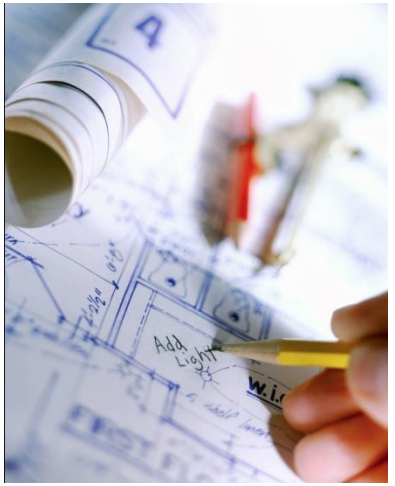
The sub-sampling data can then be used to extrapolate the proportion of BMPs in their local inventory that are performing or not performing.

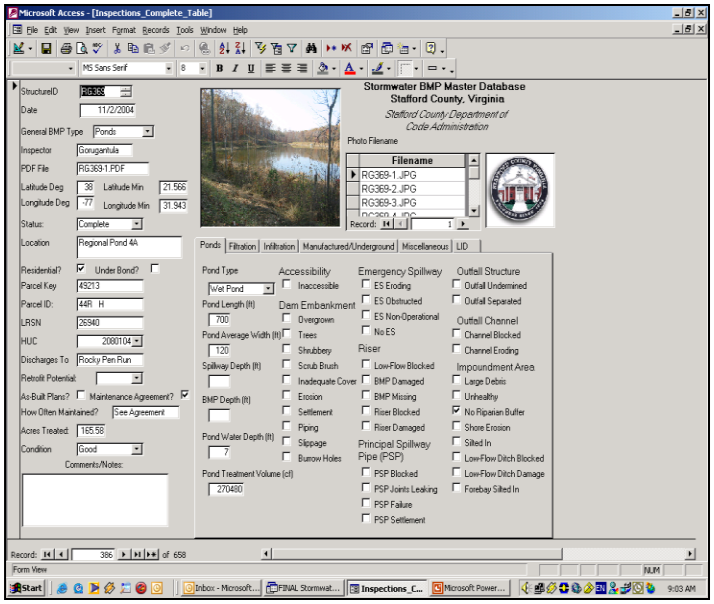
Initial Verification of BMP Installation

- Localities to verify that BMP:
  - Installed properly
  - Meets/exceeds design standards
  - Functions hydrologically as designed
- Initial verification should be provided by the designer or local inspector as condition of project completion.
- Localities to indicate in MS4 annual report that they have BMP review and inspection procedures in place and to implement them

Local Record-Keeping

- Localities to maintain comprehensive project file for each project
- File to be maintained for the entire time that the removal rate will be claimed
- Localities encouraged to develop GIS-based BMP tracking system





Recommended Cycle for Field Verification of Urban BMPs

Local inspectors should perform field verification at least once every other inspection cycle mandated under their MS4 permit

The typical inspection cycle in MS4 permits ranges from 3 to 5 years.

It is recommended that these rapid investigations of visual indicators would integrated as part of routine stormwater BMP inspections required under their MS4 NPDES permits

Suggested Process for BMP Downgrades

If the field inspection indicates that a BMP is not performing to its original design, the locality would have up to one year to take corrective maintenance or rehabilitation actions to bring it back into compliance.

If the facility is not fixed within a pre-defined time frame, the pollutant reduction rate for the BMP would be eliminated, and the locality would report this to the state in its annual MS4 report.

If corrective maintenance actions were verified for the BMP at a later date, the locality could take credit for it then.

State Reporting Systems

- States report BMP data using CBP-approved rates/methods, reporting units, geographic location
- Periodically field verify BMPs

Non-regulated Stormwater -Thought Process-

- Urban BMP Verification Committee
  - Staffs Overcommitted
- Chair and Coordinator Developing Principles
  - Locality performs equivalent to MS4:
    - BMPs receive credits according to MS4 Principles
  - Locality reports initial Install w/Inspection but no follow-up actions:
    - BMPs receive full removal credit for first 5 year period
    - Reduction in removal credits over 5 year blocks with no inspection reporting
    - BMP eventually falls off

Impediments

- Some urban BMPs are implemented outside the local development review process, and therefore may not be properly counted or reported.
- Most Bay states are just now developing tracking systems to aggregate the BMPs reported by individual localities, and several have not been able to keep up with BMP information submitted by 70 to 400 MS4s in their jurisdiction.
- Up to now, few states have allocated sufficient staff resources to fully enforce MS4 permit maintenance conditions, verify that local BMP information is accurate, and cull out BMPs from the CBWM input deck that are no longer achieving their intended nutrient or sediment removal rate.

Impediments

- Urban BMPs are installed in non-regulated areas in the watershed. Many of these localities may not have all of the legally required BMP inspection and maintenance provisions found in MS4 localities. As a consequence, BMP reporting and verification may be challenging in non-MS4 communities, particularly in smaller localities with limited staff resources.
- Most localities do not currently report on voluntary BMPs that are installed by homeowners or watershed groups.
- Some resistance by some jurisdictions to urban verification principles due to concerns about EPA enforcement actions as a result of inaccurate or incomplete tracking, reporting or inspections.

Next Steps

- Finalize Principles and Protocols by end of 2012
- Continue to develop Principles and Protocol into Urban BMP Expert Panels