QUANTIFICATION OF BMP IMPACTS ON CBP MANAGEMENT STRATEGIES

Forestry Workgroup Meeting

August 3, 2016

Contract

□ Tetra Tech awarded contract from Chesapeake Bay Trust

  ◘ James Davis-Martin, Project Technical Lead

  ◘ Mark Sievers, Tetra Tech Lead and Urban Lead

  ◘ Steve Dressing, Tetra Tech Agriculture Lead

  ◘ Aileen Molloy, Tetra Tech Forestry Lead

Goal

To quantify the effect the Bay Model's best management practices (BMPs) have on each management strategy to better enable jurisdictions, localities, and others to assess the impact of their watershed implementation plans on all management strategies or additional goals

Intended Result

A matrix that assigns each BMP (or BMP group) an impact score for each management strategy or goal

Management Strategy	BMP 1	BMP 2	BMP 3	Etc.
A	-X to +X	-X to +X	-X to +X	-X to +X
B	-X to +X	-X to +X	-X to +X	-X to +X
C	-X to +X	-X to +X	-X to +X	-X to +X
Etc.	-X to +X	-X to +X	-X to +X	-X to +X

Management Strategies & Additional Goals – WQGIT

Management Strategy	Management Strategy	Additional Goals
Blue Crab Abundance	Forest Buffers	Community Development/Jobs
Oysters	Tree Canopy	Flood Control/Mitigation
Fish Habitat	Toxic Contaminants Policy and Prevention	Bacteria Loads
Forage Fish	Healthy Watersheds	Property Values
Wetlands	Citizen Stewardship	Groundwater Recharge/Infiltration
Black Ducks	Protected Lands	Drinking Water Protection/Security
Stream Health	Land Use Methods and Metric Development	Biodiversity and Habitat
Brook Trout	Public Access Site Development	Air Quality
Fish Passage	Climate Adaptation	Recreation
Submerged Aquatic Vegetation		Energy Efficiency

Process

- Develop narrative guidelines for assigning impact scores
  - Review each management strategy, focusing on the *Factors Influencing Success* section, to help identify and assess the factors for which BMP impacts are of greatest concern
  - Technical memorandum on the rationale for the guidelines
    - GIT/Wkgp review

Process

- ☐ Gather information
  - ☐ Management strategies
  - ☐ GITs/Workgroups
    - ■ Scientific literature
    - ■ Best Professional Judgement
  - ☐ BMP Panel reports
  - ☐ Toxic contaminants study

Example Draft Impact Score Guidelines

Value	Score	Score Narrative for Groundwater Recharge/Infiltration	Score Narrative for Tree Canopy
5	Substantial Improvement	Practice maximizes infiltration at the site (replaces impervious surface area with pervious surface area or captures and infiltrates runoff from developed sites or sites with low permeability)	Practice directly creates tree canopy
4	Moderate to Substantial Improvement	Somewhere between 3 and 5 → BPJ	Somewhere between 3 and 5 → BPJ
3	Moderate Improvement	Practice creates increase in infiltration at the site (e.g., replaces impervious surfaces with semi-pervious surfaces or improves permeability of undeveloped sites).	Practice establishes policies, regulations, ordinances, or program priorities that should result in increased tree canopy. Practice involves limited tree planting, but not to the extent of a tree canopy.
2	Slight to Moderate Improvement	Somewhere between 1 and 3 → BPJ	Somewhere between 1 and 3 → BPJ
1	Slight Improvement	Practice prevents a decrease in infiltration at the site.	Practice improves survivability of existing trees.(e.g. reduces the impact of development, pests/diseases, utility-related or homeowner/property owner removals, mortality due to poor maintenance or site conditions, natural mortality due to aging, or deer browse on canopy loss.
0	No Effect	Practice has no impact on groundwater recharge/infiltration than without the practice.	Practice has no impact on tree canopy
-1	Slight Worsening	Practice promotes (but does not directly cause) a decrease in infiltration at the site.	Practice decreases survivability of existing trees.
-2	Slight to Moderate Worsening	Somewhere between -1 and -3 → BPJ	Somewhere between -1 and -3 → BPJ
-3	Moderate Worsening	Practice directly decreases infiltration at the site (e.g., replaces pervious surfaces with semi-pervious surfaces).	Practice establishes policies, regulations, ordinances, or program priorities that should result in decreased tree canopy. Practice involves limited tree removal, but not to the extent of a tree canopy.
-4	Moderate to Substantial Worsening	Somewhere between -3 and -5 → BPJ	Somewhere between -3 and -5 → BPJ
-5	Substantial Worsening	Practice prevents infiltration at the site (e.g., adds impervious surface area without runoff capture and infiltration) or	Practice directly removes tree canopy.

Forestry BMPs

BMP Group
Dirt/Gravel Roads
Forestry Harvesting Practices
Shoreline Management
Stream Restoration
Forest Conservation
Forest Buffers
Tree Planting

- ☐ Score each of these against each of the Management Strategies Impact Guidelines

Process

- Assign impact scores to BMP groupings
- Develop draft project report for review and comment
- Final report
  - Final impact scores
  - Rationale behind the BMP groupings
  - Impact scoring guidelines
  - Appendix with literature list

Tentative Timeline

Task #	Task Description	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
1	BMP List and Groupings	✓	✓								
2	Impact Score Guidelines	✓	✓								
3	GIT/Wkgp Meetings	✓	✓	✓	✓	✓	✓				
4	Information Gathering			✓	✓	✓	✓				
5	Information Review and Scoring					✓	✓	✓	✓		
6	Final Documentation								✓	✓	✓

Your Role

☐ Review impact score guidelines

☐ Provide potential literature to support management strategy/goals scoring criteria

☐ Score forestry BMPs against each management strategy/goal scoring criteria

Communications

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