Chesapeake Bay Stream Restoration Protocols Frequently Asked Questions
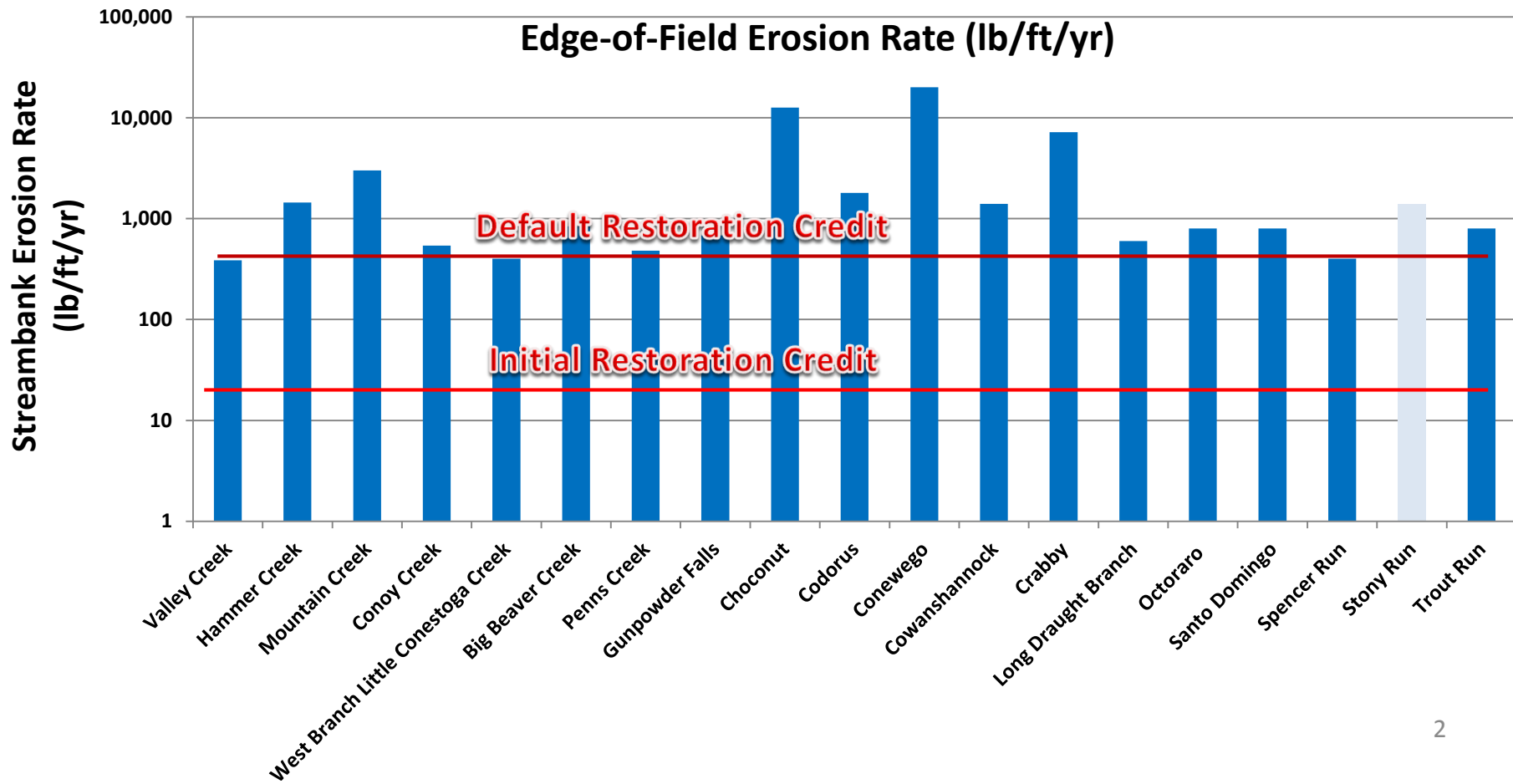

CENTER FOR WATERSHED PROTECTION

Urban Stormwater Work Group Meeting

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January 17, 2017

Why the initial credit needed to be changed

Stream Restoration Protocol Revisions

- WQGIT approved initial Protocols on May 13th 2013

- USWG approved revisions on January 17th 2014

- WTWG approved revisions on August 28th 2014

- WQGIT approved revisions on September 8th 2014

Stream Restoration Protocols

1. Prevented sediment approach

2. In-stream denitrification

3. Floodplain reconnection

4. The "tweener" Dry Channel RSC

The "Test-Drive" Process

- Recommended protocols are new, somewhat complex and will require project-based interpretation on the part of practitioners and regulators alike.

- Five consulting firms and one local government applied the protocols to ten different projects over the 6-month test drive period.

Main Concerns Identified during the "Test-Drive" Review Process

Concern: The protocols are too complicated and difficult to use for planning purposes.

Solution: Made it clear in the report that the default rate should be used for planning purposes and projects that do not conform to recommended reporting requirements.

General Protocol Revisions

Concern: The interim rate leads to load reductions that in some cases are excessively high and can exceed watershed loading rates.

Solution:

1. Corrected interim rate for TN and TSS using revised efficiency estimates from Spring Branch Study

2. Added WTWG recommendation that the aggregate load reductions from a practice should not exceed estimated loads in the Watershed Model for any given land-river segment.

General Protocol Revisions

Concern: Confusion over application of the sediment delivery ratio and how it is applied to nutrients.

Solution:

1. Sediment delivery ratio integrated into interim rate and Protocol 1 for coastal plain (0.061) and non coastal plain (0.181)

2. Added recommendation to the report that the Chesapeake Bay Program develop estimates of nutrient attenuation in small streams prior to calibration of the Phase 6 Watershed Model.

Protocol 1 Revisions

Concern: The BANCS method may not be accurate and regional curves have not been developed.

Solution: Clarified that states are encouraged to develop their own more robust methods for estimating streambank erosion rates or monitoring results.

Protocol 1 Revisions

Concern: The 50% restoration efficiency may be too low and is based on only one study.
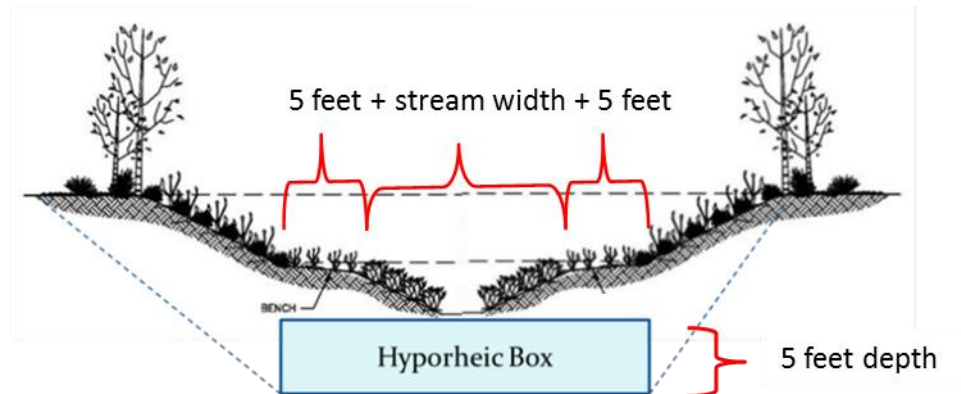
Solution: Allowed greater than 50% restoration efficiency for projects that include monitoring to demonstrate higher rates such as Big Spring Run.

Photos courtesy of Jeff Hartranft, PADEP

Protocol 2 Revisions

Concern: Load reductions from Protocol 2 can be high and in some cases exceed watershed loading rates.

Solutions: Added a qualifying condition that TN load reduced cannot exceed 40% of the total watershed TN load.
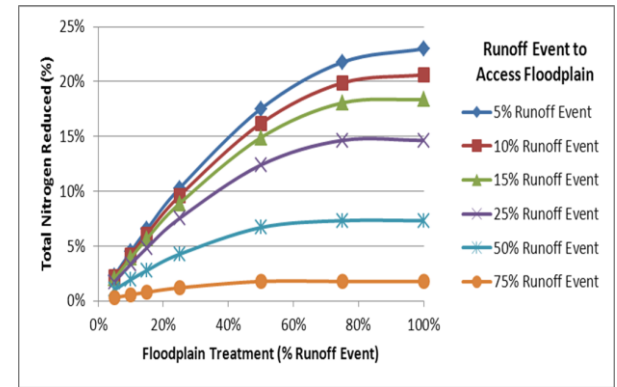

Justification: Klocker (2009) found that at maximum 40% of the daily load of nitrate in Minebank Run could be removed.

Protocol 3 Revisions

Concern: The curves used to develop Protocol 3 are not accurate enough for design purposes.

Solution: Included a better description of how the curves were developed and provided example of how other methods can be used, such as an alternate method presented in Appendix G that uses the Soil Conservation Service Runoff Curve Number.

Protocol 3 Revisions

Concern: Confusion over how upstream BMPs affect load to the project and subsequently the credit received.

Solution: The CBP Modeling Team provided explanation in Appendix F, which addresses modeling concerns related to Scenario Builder.

Protocol 3 Revisions

Concern: Confusion over why the baseflow TN credit from Protocol 2 is not added to the credit from Protocol 3.

Solution: Added clarification that would allow Protocols 2 and 3 to be additive.

Concerns since the final approval

- Questions about the application of the protocols, usually due to not carefully reading the protocols or appendices resulting in errors or inconsistencies between the interim rate used in the protocols and the computed load reduction.

Concerns since the final approval

- Questions as to what qualifies as a stream restoration project, including confusion between wet and dry Regenerative Stormwater Conveyance, perennial/intermittent streams, and unique restoration projects like stream restoration done in conjunction with an inline pond retrofit.

Concerns since the final approval

- Questions about the nitrate loading needed for Protocol 2, which the Panel Report notes needs to be obtained from CBP.

- Questions about the rationale for the 0.061 sediment delivery factor for Coastal Plain Streams (compared for 0.187 for non-coastal plain streams) given the close proximity of these streams to the Bay.

Concerns since the final approval

- Questions about how the Phase 6 model affects the stream protocols and their use in developing TMDL Implementation Plans.