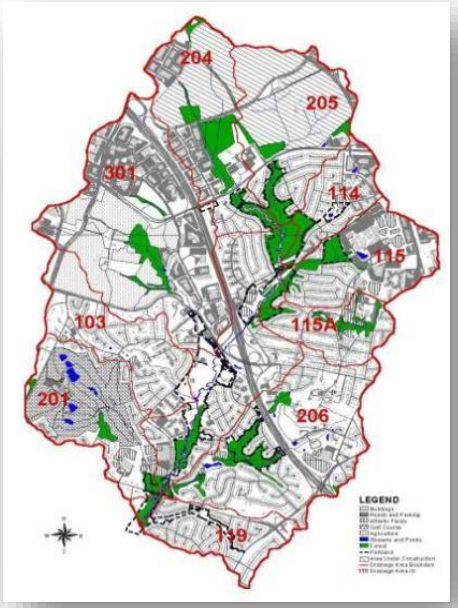
Forming Technical Groups to Revisit Stream Restoration Protocols



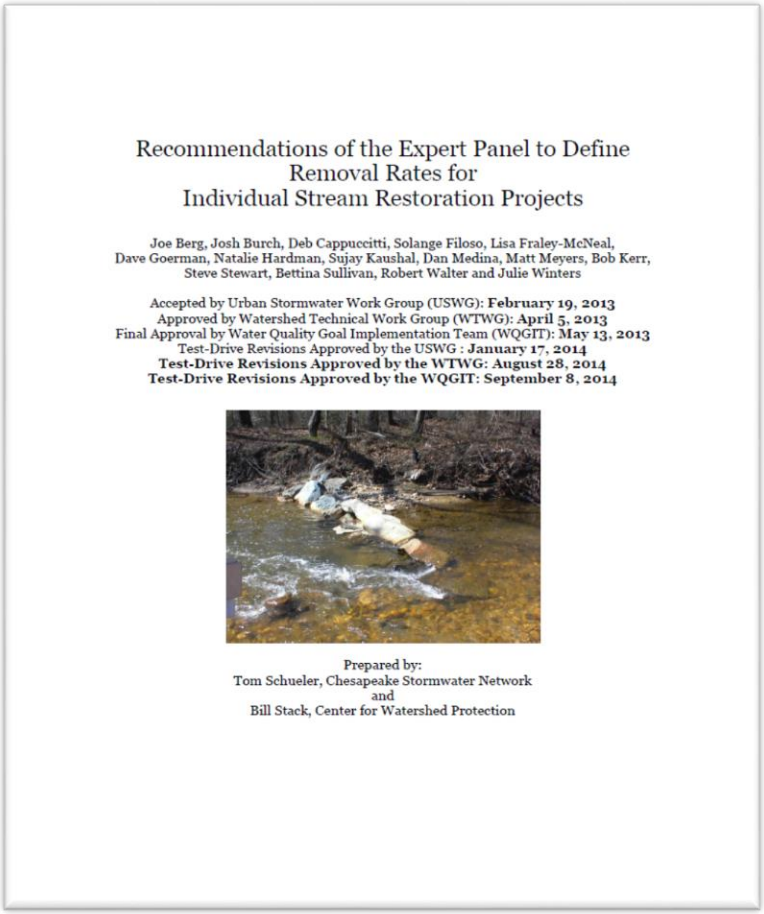
Tom Schueler and David Wood
Chesapeake Stormwater Network

Urban Stormwater Work Group
Stream Health Work Group

September 18, 2018

CBP Stream Restoration Crediting

- Expert Panel Report approved in 2013
- Report was revised after a “test-drive” period: 2014
- 2017: Changes in how streams and sediment are simulated in Phase 6 Watershed Model



Recommendations of the Expert Panel to Define
Removal Rates for
Individual Stream Restoration Projects

Joe Berg, Josh Burch, Deb Cappuccitti, Solange Filoso, Lisa Fraley-McNeal,
Dave Goerman, Natalie Hardman, Sujay Kaushal, Dan Medina, Matt Meyers, Bob Kerr,
Steve Stewart, Bettina Sullivan, Robert Walter and Julie Winters

Accepted by Urban Stormwater Work Group (USWG): **February 19, 2013**
Approved by Watershed Technical Work Group (WTWG): **April 5, 2013**
Final Approval by Water Quality Goal Implementation Team (WQGIT): **May 13, 2013**
Test-Drive Revisions Approved by the USWG : **January 17, 2014**
Test-Drive Revisions Approved by the WTWG: August 28, 2014
Test-Drive Revisions Approved by the WQGIT: September 8, 2014

Prepared by:
Tom Schueler, Chesapeake Stormwater Network
and
Bill Stack, Center for Watershed Protection

Stream Restoration Protocols

1. Prevented sediment approach

2. In-stream denitrification

3. Floodplain reconnection

Background

- Stream FAQ Document
- Stream Restoration Forums
- Defining Functional Uplift for Stream Restoration Practices
- Stream Restoration Science Presentations
- MDE Request for Outfall Stabilization Credits
- PADEP Request on Legacy Sediment Removal Credits

Major USWG Initiative

- Over 45 experts involved in 5 groups
- **Note: not all experts have been invited or confirmed yet**
- Final approval by USWG in 2019
- Collaborative private and public sector effort
- One year time frame
- Major outreach efforts in consensus areas
- Goal is to produce one concise document for practitioners and reviewers alike

USWG Authorizes Small Groups

Group 1: Verifying Stream Restoration Practices

Group 2: Crediting Outfall Stabilization Practices

Group 3: Establishing Standards for Applying Protocol 1 (Prevented Sediment)

Group 4: Adjusting Protocol 2/3 to Capture Floodplain/Stream Reconnection

Group 5: Planning a Bay-wide Stream Restoration Meeting *

* Assuming FY18 WQGIT funding is awarded

Actions Requested Today

- *Note:* USWG has already authorized the formation of small groups over last 6 months; memo outlines the big picture
- Review proposed charge for the 4 technical groups and suggest any changes by 9/28 to Tom Schueler at watershedguy@hotmail.com
- Nominate any additional members to serve on Groups 1, 3 or 4 by same deadline

Group 1:
Verifying Stream Restoration Practices

Name	Affiliation
Rich Starr	Ecosystem Planning and Restoration
Kathy Hoverman	KCI
Tim Schueler	Hazen and Sawyer
Kip Mumaw	Ecosystem Services
Neely Law	Center for Watershed Protection
Matt Meyers	Fairfax County, DPWES
Sandra Davis	US Fish and Wildlife Service
Jennifer Rauhofer	Stormwater Management Consulting
THREE SLOTS REMAINING	

Charge for Verification Group

1. Define standard for adequate as-built drawings

2. Decide what quantitative design data should be retained for future verification

3. Establish visual indicators to rapidly inspect performance of individual stream restoration projects

4. Set benchmarks for post-construction riparian and floodplain plant community condition

5. Define specific thresholds for project repair, failure or follow-up forensic investigations

Group 2:
Crediting Outfall Stabilization Practices

Name	Affiliation
Ray Bahr	MDE
Stephen Reiling	DOEE
Tracey Harmon	VDOT
Brock Reggi	VADEQ
Karen Coffman	MD SHA
Ryan Cole	MD SHA (alternate)
Elizabeth Ottinger	US EPA Region 3
Carrie Traver	US EPA Region 3
Alison Santoro	MD DNR
Ted Brown	Biohabitats
Chris Stone	Loudoun County, VA
Erik Michelsen	Anne Arundel County
Neil Weinstein	LID Center
PA REP	TBD
GROUP IS FULL	

Outfall Stabilization Group

- Joint MDE/SHA proposal to credit pollutant reductions for qualifying outfall stabilization projects.
- Modify the prevented sediment protocol from the existing stream restoration EPR
- USWG agreed that a new protocol is warranted if it can be technically justified.
- Small group was established with a detailed charge in May
- Survey monkey used to compile initial group reactions on crediting options.
- Kickoff meeting later today

Group 3:
Establishing Standards for Applying Protocol 1
(Prevented Sediment)

Name	Affiliation
Drew Altland	RKK
Lisa Fraley-McNeal	Center for Watershed Protection
Joe Berg	Biohabitats
Rich Starr	Ecosystem Planning and Restoration
Josh Running	Stantec
Jim Morris	JMT
THREE MORE SLOTS OPEN	

Most Prevalent Protocol

Low BEHI and NBS

High BEHI and NBS

Group 3 Charge

- Guidance on the minimum qualifying conditions for protocol 1 projects (emphasis on max bank armoring)
- Establish quality control standards for measuring key BANCs parameters
  - Define bank full elevations properly
  - Accurately estimate NBS and BEHI scores
  - Ensure data quality control over entire project reach
- Determine whether default values can be used streambank soil bulk density and nutrient content (or whether they need to be sampled) .
- Recommend which curves BANCS are most appropriate for different physiographic regions and channel conditions in Bay watershed.
- Guidelines on how to estimate stream sediment loss using the alternate Protocol 1 field monitoring or modeling options

Group 4:
Adjusting Protocol 2/3 to Capture Floodplain/Stream Reconnection

Name	Affiliation
Joe Berg	Biohabitats
Drew Altland	RKK
Bill Stack	CWP
Scott Lowe	McCormick Taylor
Joseph Sweeney	Water Science Institute
John Hottenstein	Ecosystem Planning and Restoration
2 to 3 SLOTS OPEN	

Protocol 3:
Credit for Floodplain Reconnection

Annual mass nutrient reduction credit for projects that reconnect stream channels to their floodplain over a wide range of storm events

Photos courtesy of Jeff Hartranft, PADEP

Group 4 Charge (under development)

- Determine if any pollutant reduction protocols from wetland creation/restoration CBP expert panels can be used to address floodplain reconnection
- Investigate potential standard methods to define post-restoration floodplain storage and sediment trapping capacity within the project reach.
- Determine how far the hyporheic box can be extended from the stream channel into the adjacent floodplain.
- Evaluate how landscape position influences the pollutant reduction capability of floodplain reconnection projects
- Assess any new qualifying conditions needed to ensure that floodplain protocols are properly applied, and provide clear design examples.

Group 5:
Planning a Bay-wide Stream Restoration Meeting

Name	Affiliation
Norm Goulet	NVRA
Matt Meyers	Fairfax County, VA
Sadie Drescher-invited	CBT - provide input on involving CBT research grantees
Steering Committee: to be formed later in 2018, assuming that funds are awarded	
Meeting Contractor: to be hired is response to a future RFP issued by CBT	
[1] Pending award of WQGIT funds via Chesapeake Bay Trust in late 2018	

Bay-wide Meeting

- Two Day Regional Conference in Fall of 2019
- Outreach on Protocol Consensus
- Updates on Latest Stream Science
- Follow-up State Webcasts and Decisions on Technical Support and Training

Managing the Small Groups to Consensus

Factor	Group 1 Verification	Group 2 Outfalls	Group 3 Methods	Group 4 Floodplain	Group 5 Bay Meeting
Start Date	5/18	9/18	10/18	11/18	2/19 [1]
End Date [2]	12/18	4/18 [3]	6/18	9/18 [3]	9-12/19
Group Lead	Schueler	Schueler	Wood	Schueler	Goulet
Support Help	Wood	Wood Hanson	Schueler	Wood	Wood
More Members?	1 or 2	Full	2-3	2-3	Later
Review/Approval	USWG, w/ CBPO, no expert panel review process				
Coordination	SHWG	& WTWG	SHWG	& WTWG	Everybody

Notes:
[1] start date is contingent on award of WQGIT funds from CBT by end of year
[2] projected, but may change
[3] changes in protocol crediting must get CBP partnership approval by 4/19 to prevent model "lockout"

Small Team Ground Rules

- Quickly respond to doodle polls and participate in all calls
- Review all technical materials in advance of each meeting
- Promptly complete any assignments accepted during calls
- Clearly indicate where you stand on the consensus continuum (i.e., stop, hold, stand aside, agree w/ reservations, endorse)
- Where practical, provide constructive alternatives on the issues you object to
- Weigh in on each key issue (silence is deemed consent)
- Be respectful of other members of the group and facilitators
- No wind-bagging, model-bashing, long guitar solos or throwing shade on other panel members.

Questions and Answers