

Stream Health Logic Table and Work Plan

Primary Users: Goal Implementation Teams, Workgroups, and Management Board | **Secondary Audience:** Interested Internal or External Parties

Primary Purpose: To assist partners in thinking through the relationships between their actions and specific factors, existing programs and gaps (either new or identified in their Management Strategies) and to help workgroups and Goal Implementation Teams prepare to present significant findings related to these actions and/or factors, existing programs and gaps to the Management Board. | **Secondary Purpose:** To enable those who are not familiar with a workgroup to understand and trace the logic driving its actions.

Reminder: As you complete the table below, keep in mind that removing actions, adapting actions, or adding new actions may require you to adjust the high-level Management Approaches outlined in your Management Strategy (to ensure these approaches continue to represent the collection of actions below them).

Long-term Target: (the metric for success of Outcome):

Two-year Target: (increment of metric for success):

KEY: Use the following colors to indicate whether a Metric and Expected Response have been identified.	
Metric	Specific metrics have not been identified
	Metrics have been identified
Expected Response	No timeline for progress for this action has been specified
	Timeline has been specified

WORK PLAN ACTIONS					
Green - action has been completed or is moving forward as planned		Yellow - action has encountered minor obstacles		Red - action has not been taken or has encountered a serious barrier	
Action #	Description	Performance Target(s)	Responsible Party (or Parties)	Geographic Location	Expected Timeline
Management Approach 1: Identify an appropriate suite of metrics to measure the multiple facets of stream health to complement the baywide Chessie BIBI					
1.1	Update and Refine the Chesapeake Bay Basin-wide Index of Biotic	1. Updating the database will be completed Nov 2015. The following remaining steps will be completed in 2016.	ICPRB	Chesapeake Bay Watershed	Completed Spring 2017

	Integrity (“Chessie BIBI”) for streams.	<ol style="list-style-type: none"> 2. Metric and index calculations 3. Index sensitivity improved 4. Bioregion under-representation analysis 5. Genus-level metrics tested 			
1.2	Establish 2008 baseline and approach for determining future trends (% change)	<ol style="list-style-type: none"> 1. Provide stream representation comparable to CBWM Phase 6 including 1st-4th order streams (also reconcile differences in scale from various sampling programs, 1:24K v 1:100k) 	ICPRB, USGS, Technical Advisory Group for Chessie BIBI update	Chesapeake Bay Watershed	1. Available
		<ol style="list-style-type: none"> 2. Develop method to express site-specific biological data as percent of stream miles with a passing rank in Chesapeake Bay watershed 3. Determine time period for the 2008 baseline and calculate baseline 4. Decide how trends (i.e., % change from 2008 baseline) should be determined from random sampling design data 			2 – 4. Workshop funded and scheduled for Spring 2018

1.3	Determine and Report Progress	1. Periodically acquire and process available stream data from Bay States and District of Columbia	Bay States and DC provide data; ICRPB work with monitoring staff and EPA CBP for QA process; EPA CBP report and track	Chesapeake Bay Watershed	1. Ongoing	
		2. CBP calculate and report % change in Chessie BIBI index			2. Not Formally Begun	
1.4	Identify practicable metrics which are consistent with both BMP verification guidance to credit projects for N, P, and sediment load reductions as well as stream functional improvements to use in assessing overall improvement in stream health. Incorporate these recommendations into BMP Verification Plans.	1. Stream Health Work Group continue to work with Habitat GIT to review future drafts of state Verification Program Plans to assure states incorporate Verification Committee recommendations	Suggested BMP Verification Committee, Habitat GIT, SHWG, state agencies (MD DNR Monitoring and Non-Tidal Assessment)	1. State representatives to report to SHWG on stream restoration BMP verification by December 2018	Ongoing	
		2. Stream Health Work Group to receive regular updates on results of "pooled monitoring" research via Chesapeake Bay Trust (CBT) grantees or CBT staff				2. Sadie Drescher to provide annual updates (Spring 2018)
		3. Recommend guidance for minimum stability monitoring and incorporate into BMP Verification Guidance				3. MDE will provide their existing guidance and share with other state representatives. Invited feedback from other state representatives by December 2018
		4. Document how higher level performance monitoring assessment				

		parameters (i.e., water quality and biology) will be assessed			
Management Approach 2: Provision of adequate funding and technical resources to support functional life in stream restoration projects, in addition to nutrient and sediment reductions.					
2.1	Implement pooled monitoring approach throughout Chesapeake Bay watershed	<p>1. SHWG provide input to existing pooled monitoring research program, including topics for research and dissemination support of the effort/results</p> <p>2. Working with the existing pooled monitoring effort, provide input on short- and long-term funding plan. Where appropriate as determined by the existing pooled monitoring advisory committee and the Stream Health Work Group, participate in key expansion/development efforts (e.g., proposed effort to support the MD MS4 permit monitoring requirements through</p>	<p>1. CBT lead on Pooled Monitoring Advisory Committee (members include MDE, USACE, FWS, MD DNR, MD SHA). SHWG lead(s) meet with CBT two times per year.</p> <p>2. Interested parties contact CBT to join pooled monitoring program. Ongoing</p> <p>Build on existing programs like Maryland Stream Restoration Association/ Maryland Water Monitoring Council representative</p>	<p>Maryland (current effort)</p> <p>District of Columbia, Virginia, and other interested jurisdictions (future, expanded effort)</p> <p>Potential other Chesapeake Bay Watershed funding partners/collaborators (future, expanded effort)</p>	<p>Ongoing, as needed, yearly updates at the yearly forum.</p> <p>See the CBT website for updates throughout the year at https://cbtrust.org/restoration-research/</p>

		the Pooled Monitoring Program).			
		3. CBT Pooled Monitoring advisory committee (with help from Maryland Water Monitoring Council Monitoring Work Group) will pursue efforts to disseminate results, including but not limited to an annual forum to share ongoing research information and receive feedback for that research with the audience focus of the regulatory, manager, and select practitioners for the regulatory- and practice-relevant research outcomes. This annual meeting is also used to gather and refine the top key restoration questions in the community for future study.	3. CBT		
		4. Develop strategy for monitoring database/clearinghouse	4. SHWG and CBT to discuss development of database/clearinghouse. December 2019		

Management Approach 3: Active and engaged participation by local communities with Federal and State partners is central to Bay restoration (See Management Strategy for full Approach).

<p>3.1</p>	<p>Develop a “Stream Restoration Permit Committee” of the Stream Health Work Group that brings practitioners, regulators and the regulated community together to resolve issues and find common ground to identify actions to streamline the stream restoration project permit review process</p>	<ol style="list-style-type: none"> 1. Identify members of the Stream Health Work Group to form the Committee 2. Develop meeting schedule 3. Review latest synopsis of permit issues, recommendations and actions 4. Provide recommendations to Stream Health Work Group (and Bay Program Partnership) on priority actions to streamline stream restoration project permit review process 5. Determine need work with federal, state regulatory agencies and local governments to develop streamlined process to evaluate WIPs, MS4 restoration plans or other relevant site analyses as sufficient documentation for alternative site analysis in support of stream restoration permits 	<p>Permitting Committee: USACE (North Atlantic Division, Baltimore, Norfolk), EPA, MDE, VA DEQ, VMRC, Anne Arundel County, Fairfax County, PA DEP, DC DOEE, Trout Unlimited, Other jurisdictional representatives (DE, WV, NY)</p>	<p>Chesapeake Bay Watershed</p>	<p>January 2016 – Ongoing</p> <p>Recommendations on 1-4 expected April 2018</p>
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Management Approach 4: Develop and Promote holistic stream restoration design guidelines that identify the level of degradation and improvement of stream functions and key stressors/factors limiting potential uplift.

<p>4.1</p>	<p>Implement recommendations from the STAC workshop report to establish a joint SHWG and USWG work group to develop guidance (e.g., via an expert panel) to align the stream restoration BMP protocols for nutrient and sediment loads delivered downstream with approaches to optimize improvements in stream health and function (e.g., improve instream aquatic life to improve Chesapeake Bay BIBI). Include more consideration of existing habitat conditions so as to not degrade existing functions as a result of a BMP. Also use work group to</p>	<ol style="list-style-type: none"> 1. Identify work group facilitator and reps from SHWG and USWG. 2. Establish charge for work group 3. Establish list of expected outcomes and deliverables 4. Develop timeline 5. Develop guidelines (interim and final) 6. Get approval from SHWG and USWG and the Water Quality and Habitat GITs 	<p>Suggested SHWG reps USWG reps. to include USFWS, USACE Baltimore District, STAC, USGS, MDE</p>	<p>Chesapeake Bay Watershed</p>	<p>Co-chairs to reach out to USWG leads to define next steps. March 2018</p> <p>Interim guidelines by December 2018</p>
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	address other technical issues identified in STAC Workshop on Sustainable Stream Restoration.				
4.2	Provide recommendations for the water quality impairments associated with a TMDL that will achieve co-benefits as a result of addressing other stressors through restoration practice implementation.	<ol style="list-style-type: none"> 1. Coordinate with representatives from State agencies involved in TMDL and MS4 Programs and Toxic Contaminants Work Group. 2. Review Biological Stressor Identification (BSID) Analysis, sediment TMDLs and MS4 permits and determine best approaches for addressing biological stressors identified by the BSID and classified as 4c can be addressed. 3. Identify stressors used by each jurisdictions and how they relate to stream functions (e.g. temperature, flow, sediment, chloride) 	Monitoring and Non-Tidal Assessment as representative from SHWG with interest from VA DEQ, WV DEP, PA DEP, NY DEP FWS, MDE interested, USGS	Maryland, Virginia, Pennsylvania, District of Columbia	<ol style="list-style-type: none"> 1. Invite representatives of Toxic Work Group to upcoming SHWG meeting / 2. MDE to present BSID approach at SHWG meeting Spring 2018/ 3. Dec 201
Management Approach 5: Work with CB partners to include the Enhancing Partnering, Leadership and Management GIT to enhance the capacity of local governments, organizations and landowners of beneficial stream restoration and maintenance practices.					
5.1	Provide training and education to	1. SHWG membership provide updates at	SHWG Membership	TBD based on training needs identified	Ongoing

	diversity of stakeholders on stream restoration and stream health.	<p>meetings with upcoming training</p> <ol style="list-style-type: none"> 2. SHWG share recent research findings at meetings 3. SHWG Chair(s) attend LGAC meeting at minimum one time per year to discuss stream health and restoration. Coordinate with LGAC liaison. (e.g. Phase III WIP Fact Sheets) Offer and conduct additional training upon request. 4. Arrange for session at Mid-Atlantic Restoration Conference 5. Add training schedule to SHWG calendar or meeting minutes. 			
5.2	The Chesapeake Bay Commission will work collaboratively with CBP partners to identify legislative, budgetary and policy needs to advance the goals of the Chesapeake Watershed Agreement. We will, in turn, pursue		CBC	Chesapeake Bay Watershed	December 2018

	<p>action within our member state General Assemblies and the United States Congress. See CBC Resolution #14-1 for additional information on the CBC's participation in the management strategies.</p>				
	<p>Review and update Management Strategy to reflect progress and changes.</p>		<p>Stream Health Workgroup</p>		<p>Prepare for next SRS process</p>