Biennial Strategy Review System: Logic Table and Work Plan

Instructions: The following Logic Table should be used to articulate, document, and examine the reasoning behind your work toward an Outcome. Your reasoning—or logic—should be based on the Partnership's adaptive management decision framework. This table allows you to indicate the status of your management actions and denote which actions have or will play the biggest role in making progress.

Some Management Strategies and Work Plans will not immediately or easily fit into this analytical format. However, **all GITs should complete columns one through four** to bring consistency to and heighten the utility of these guiding documents. The remaining columns are recommended for those who are able to complete them. If you have any questions as you are completing this table, please contact SRS Team Coordinator Laura Free (free.laura@epa.gov).

The instructions below should be used to complete the table. An example table is available on the GIT 6 webpage under "Projects and Resources".

1. For the first round of strategic review (2017-2018): Use your existing Work Plan actions to complete the **Work Plan Actions** section first. Make sure to number each of the actions under a high-level Management Approach, as these numbers will provide a link between the work plan and the logic table above it. Use color to indicate the status of your actions: a green row indicates an action has been completed or is moving forward as planned; a yellow row indicates an action has encountered minor obstacles; and a red row indicates an action has not been taken or has encountered a serious barrier.
2. **Required:** In the column labeled **Factor**, list the significant factors (both positive and negative) that will or could affect your progress toward an Outcome. The most effective method to ensure logic flow is to list all your factors and then complete each row for each factor. Consult our Guide to Influencing Factors (Appendix B of the Quarterly Progress Meeting Guide on the GIT 6 webpage under "Projects and Resources") to ensure your list is reasonably comprehensive and has considered human and natural systems. Include any factors that were not mentioned in your original Management Strategy or Work Plan but should be addressed in any revised course of action. If an unmanageable factor significantly impacts your outcome (e.g., climate change), you might choose to list it here and describe how you are tracking (but not managing) that factor.
3. **Required:** In the column labeled **Current Efforts**, use keywords to describe existing programs or current efforts that other organizations are taking that happen to support your work to manage an influencing factor but would take place even without the influence or coordination of the Chesapeake Bay Program. You may also include current efforts by the Chesapeake Bay Program. Many of these current efforts may already be identified in your Management Strategy; you may choose to link the keywords used in this table to your Management Strategy document for additional context. You may also choose to include some of these efforts as actions in your work plan; if you do, please include the action's number and hyperlink.
4. **Required:** In the column labeled **Gap**, list any existing gap(s) left by those programs that may already be in place to address an influencing factor. These gaps should help determine the actions that should be taken by the Chesapeake Bay Program through the collective efforts of Goal Implementation Teams, Workgroups, and internal support teams like STAR, or the actions that should be taken by individual partners to support our collective work (e.g., a presentation of scientific findings by a federal agency to a Chesapeake Bay Program workgroup). These gaps may already be listed in your Management Strategy.
5. **Required:** In the column labeled **Actions**, list the number that corresponds to the action(s) you are taking to fill identified gaps in managing influencing factors. Include on a separate line those approaches and/or actions that may not be linked to an influencing factor. To help identify the action number, you may also include a few key words. Emphasize critical actions in **bold**.
6. **Optional:** In the column labeled **Metric**, describe any metric(s) or observation(s) that will be used to determine whether your management actions have achieved the intended result.
7. **Optional:** In the column labeled **Expected Response and Application**, briefly describe the expected effects and future application of your management actions. Include the timing and magnitude of any expected changes, whether these changes have occurred, and how these changes will influence your next steps
8. **Optional:** In the column labeled **Learn/Adapt**, describe what you learned from taking an action and how this lesson will impact your work plan or Management Strategy going forward.

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

Stream Health Work Group (SHWG) – Current Efforts

Item	Description
1	Joint meeting Urban Stormwater Work Group (USWG) and SHWG held June 4, 2018
2	USWG/SHWG GIT FY2018 Proposal: "Bay-wide Forums to Promote Implementation of Enhanced Stream Restoration Practices". Submitted July 2018
3	Maryland Water Monitoring Council 24th Annual Conference: Science, Stewardship, and Citizen Involvement – Working Together for Clean Water. Session on Stream Restoration Monitoring. December 7, 2018.
4	Stream Restoration Permit Committee: Preparing survey to assess progress and need to improve permit process and project outcomes related to functional lift.
5	ICPRB hosted workshop on April 5-6, 2018. Developing a 2008 Baseline for the CBP Stream Health Indicator
6	Chessie BIBI (Chesapeake Basin-wide Index of Biotic Integrity) • HGIT FY2018 Proposal prepared by ICPRB: "Strengthening the Stream Health Index in Chesapeake's Mid-Atlantic Coastal Plain". Submitted July 2018
7	CWP and Ecosystem Planning & Restoration Training: Assessing and Restoring Stream Functions, December 11, 2017
8	CWP & Carrol County. Continue study on "The Self-Recovery of Stream Channel Stability in Urban Watersheds due to BMP Implementation".

Factor	Current Efforts	Gap	Actions **(critical in bold)**	Metrics	Expected Response and Application	Learn/Adapt
What is impacting our ability to achieve our outcome?	*What current efforts are addressing this factor?*	*What further efforts or information are needed to fully address this factor?*	*What actions are essential to achieve our outcome?*	*Optional: Do we have a measure of progress? How do we know if we have achieved the intended result?*	*Optional: What effects do we expect to see as a result of this action, when, and what is the anticipated application of these changes?*	*Optional: What did we learn from taking this action? How will this lesson impact our work?*
Ecological Stressors & Factors	*1, 2, 3*	*Non-biological factors not considered for measures of stream health*	1.3.3 4.2.3			
	3	*Lack of approaches to address biological stressors identified by BSID*	4.2.2			
Within stream channel & floodplain Factors	*1, 2*	*No BMP crediting efforts for functional improvements*	1.3			
	2	*Few resources offer a holistic view of stream restoration and BMP guidance – emphasis on sediment and nutrient reductions without consideration co-benefits*	4.1 4.2			
Watershed Based Factors	*8*	*Few resources offer a holistic view of stream restoration and BMP guidance – emphasis on sediment and nutrient reductions without consideration of co-benefits*	4.1 4.2			
Policy and Administrative Factors	*4, 1*	*Cumbersome and lengthy stream restoration project permit review processes across watershed*	3.1			
Scientific Knowledge and	5, Development of Baseline for Indicator via ICPRB	*Lack of starting point for indicator comparison*	1.1			

Factor	Current Efforts	Gap	Actions **(critical in bold)**	Metrics	Expected Response and Application	Learn/Adapt
Application of Research	Baseline Indicator workshop					
	5	*Frequency of data calls are insufficient for yearly reporting change in stream health*	1.2.2			
			2.1.2			
	1, 2	*No BMP crediting efforts for functional improvements*	1.3, 4.1			
	9	*Lack of opportunity to discuss results and receive feedback for current pooled monitoring efforts*	2.1.2			
	2, 7	*Stakeholders lack training and awareness of restoration techniques and stream health*	5.1			
Partner Coordination		*Frequency of data calls are insufficient for yearly reporting change in stream health*	1.2.1			
	1, 2	*No BMP crediting efforts for functional improvements*	1.3, 4.1			
	9, Pooled monitoring Restoration Award Program (CBT)	*Projects and Involvement from states on pooled monitoring opportunities (CBT)*	2.1.1			
			2.1.3			
	2, 7, 4	*Inconsistencies between jurisdictions in stream restoration project permit review process*	3.1			
	2, 1	*Stakeholders lack training and awareness of restoration techniques and stream health*	5.1			
Funding	9, Pooled Monitoring advisory committee has goals of expansion	*Limited number of partners on pooled monitoring effort*	2.1.2			

Factor	Current Efforts	Gap	Actions **(critical in bold)**	Metrics	Expected Response and Application	Learn/Adapt
	2 – USWG/SHWG GIT FY 2018 Funding proposal					
	6 – ICPRB HGIT FY2018 proposal					

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	Establish 2008 baseline and approach for determining future trends (% change)	1. Develop method to express site-specific biological data as percent of stream miles with a passing rank in Chesapeake Bay watershed 2. Determine time period for the 2008 baseline and calculate baseline 3. Decide how trends (i.e., % change from 2008 baseline) should be determined from random sampling design data	ICPRB, USGS, Technical Advisory Group for Chessie BIBI update	Chesapeake Bay Watershed	• HGIT FY2018 Proposal - ICPRB proposal : "Strengthening the Stream Health Index in Chesapeake's Mid-Atlantic Coastal Plain" submitted July 2018
1.2	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

1.3	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. 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	
		3. 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	1. SHWG provide input to existing pooled monitoring research program, including topics for research and dissemination support of the effort/results	1. CBT lead on Pooled Monitoring Advisory Committee (members include MDE, USACE, FWS,	Maryland (current effort) District of Columbia, Virginia, and other interested jurisdictions (future, expanded effort)	Ongoing, as needed, yearly updates at the yearly forum. See the CBT website for updates throughout the year at https://cbtrust.org/restoration-research/

			MD DNR, MD SHA). SHWG lead(s) meet with CBT two times per year.	Potential other Chesapeake Bay Watershed funding partners/collaborators (future, expanded effort)	
		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 the Pooled Monitoring Program).	2. Interested parties contact CBT to join pooled monitoring program. Ongoing Build on existing programs like Maryland Stream Restoration Association/ Maryland Water Monitoring Council representative		
		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	3. CBT		

		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.			
		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).					
3.1	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	1. Identify members of the Stream Health Work Group to form the Committee	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)	Chesapeake Bay Watershed	January 2016 – Ongoing Recommendations on 1-4 expected April 2018
		2. Develop meeting schedule			
		3. Review latest synopsis of permit issues, recommendations and actions			
		4. Provide recommendations to Stream Health Work			

	identify actions to streamline the stream restoration project permit review process	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			
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.					
4.1	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	1. Identify work group facilitator and reps from SHWG and USWG.	Suggested SHWG reps USWG reps. to include USFWS, USACE Baltimore District, STAC, USGS, MDE	Chesapeake Bay Watershed	Co-chairs to reach out to USWG leads to define next steps. March 2018 Interim guidelines by December 2018
		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			

	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 address other technical issues identified in STAC Workshop on Sustainable Stream Restoration.	the Water Quality and Habitat GITs			
4.2	Provide recommendations for the water quality impairments associated with a TMDL that will	1. Coordinate with representatives from State agencies involved in TMDL and MS4 Programs and Toxic Contaminants Work Group.	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	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

	achieve co-benefits as a result of addressing other stressors through restoration practice implementation.	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)			
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 diversity of stakeholders on stream restoration and stream health.	1. SHWG membership provide updates at meetings with upcoming training 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	SHWG Membership	TBD based on training needs identified	Ongoing

		conduct additional training upon request.			
		4. Arrange for session at Mid-Atlantic Restoration Conference			
		5. Add training schedule to SHWG calendar or meeting minutes.			