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.

Land Use Methods and Metrics Development 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

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?*
Scientific and Technical Understanding: Development of separate metrics for impervious surface, forest, farm, and wetland conversion	The Geospatial Award will result in 1m resolution monitoring of forest, farmland, and impervious surface change every 4-5 years.	No affordable method exists to track wetland conversion and change.	Continued support of Chesapeake Conservancy Coop-			

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?*
at a resolution sufficient to inform county-level decisions.		QL-1 or QL-2 LiDAR data are needed throughout the watershed.	Agreement, Objective #1.			
Scientific and Technical Understanding: Methodology to quantify impacts to water quality, habitats and healthy watersheds, and communities.	Impacts to water quality have been addressed via CAST.	Impacts to habitats, healthy watersheds, and communities.	Management elevation of importance of this outcome.			
Sustainability of long-term monitoring: This factor is a question of political will more than technological capabilities.	The Chesapeake Conservancy coop agreement will result in 1m resolution monitoring of forest, farmland, and impervious surface change every 4-5 years.	No affordable method exists to track wetland conversion and change. QL-1 or QL-2 LiDAR data are needed throughout the watershed.	Continued support of Chesapeake Conservancy Coop-Agreement, Objective #1.			
Partner Coordination: Agreement on the temporal and spatial scale at which to assess change. This is both a fiscal and practical issue.	Achieved through agreement on tracking land use change at 1m resolution every 4-5 years.	None	Continued support of Chesapeake Conservancy Coop-Agreement, Objective #1.			

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: Monitor the rate of conversion of forests, wetlands, and farmland, (and the rate of impervious surface change).					
1.1	Design a manual, stratified sampling approach at the county level and assess land cover change from high resolution imagery circa 2005-2013.	Research stratification techniques	USGS, LUWG, UMBC Summer Intern Program	Watershed Counties	Summer 2016
		Design sampling framework	USGS, LUWG		
		Implement sampling framework	USGS, LUWG		
1.2	Assess land use change throughout the entire Bay Watershed from 1984-2011 using the P6 land use database and the National Land Cover database.	Work with CBP GIS Team to assign and completed task	CBPO (USGS), LUWG	Watershed Counties	end of Summer 2016
1.3	Assess difference in high resolution land cover maps at the County level.	Quantify changes in two high-res land cover maps representing different years.	CBPO, USGS, LUWG	Prince George's County, MD	end of Summer 2016
		Separate persistent from ephemeral change			
		Quantify commission and omission errors.			

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Action #	**Description**	**Performance Target(s)**	**Responsible Party (or Parties)**	**Geographic Location**	**Expected Timeline**
1.4	Conduct a literature review on high resolution land cover change methods. (Unfunded FY 2016 GIT Funding proposal)	Review literature of the science and technologies associated with remote sensing and image interpretation as well as consultation with remote sensing professionals	LUWG Staffer		end of Summer 2016
Management Approach 2: Quantify the impacts of land conversion on water quality, healthy watersheds, and communities.					
2.1	Quantify impact of land conversion on water quality (explaining changes in nutrient and sediment that relate to monitored and modeled land conversion)	Work with USGS to explain change in major source sectors (urban, agriculture)	USGS and LUWG	Chesapeake Bay Watershed	Dec 2017
		Work with CBPO to interpret Phase 6 sensitivity to land conversion	CBPO, USGS, LUWG		
2.2	Quantify impact of land conversion on healthy watersheds and Habitats	Vulnerability to land conversions, both historical and future projections	CBPO, USGS, LUWG	State-identified healthy watersheds	
		Impact (relates to tracking health)			
2.3	Quantify impact of land conversion on communities	Set up an Action Team to define the metrics and assess the impacts to communities	LGAC, LUWG	Chesapeake Bay Watershed Counties	
Management Approach 3: Communicate the results to the public, elected officials, and to the Bay Program.					
3.1	Link the results of the Land Use Methods and Metrics Outcome Land Use Options Evaluation Workplan	Work with Healthy Watersheds GIT and Land Use Options Evaluation Management Strategy team to link the results of land use methods and metrics analyses and results to determine how best to assist communities in reducing the rate of conversion (the Land Use Options Goal)	HWGIT, CAC, LGAC, CBP Communications team, and other CBP identified partners		
3.2	Chesapeake Bay Land Change website	Launch Phase 6 land use data website	USGS, CBPO Web Team		
		Testing, refinement, expansion	USGS, CBPO Web Team		
		Develop land change forecasts	USGS, LUWG		