Land Use Methods and Metrics Logic Table and Work Plan

Primary User: 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: Assess and understand the impacts of land use change on watersheds, habitats, and communities at a scale relevant to county-level decision-makers.

*Notes:

- This example contains information in those columns that are currently **optional** to complete (Metrics, Expected Response, and Adapt/Learned). It is meant to illustrate how these columns could be used, if groups have the corresponding information and would like to provide or document it. The information in these columns is not representative of the direction of the Stream Health workgroup.
- This example does not include all factors listed in the Stream Health Management Strategy, but uses the information provided in the first iteration of the logic table in this new format. In addition, this example focuses on those factors that had specific actions associated with them. The SRS Planning Team will look at ways to represent more holistically the factors identified in the Management Strategy that might not be addressed through work plan actions.

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 at a resolution sufficient to inform county-level decisions.	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. QL-1 or QL-2 LiDAR data are needed throughout the watershed.	1.1, 1.2, 1.3, 1.4, 1.5, 1.6 Continued full support of the Geospatial Award.			
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.	2.1, 2.2, 2.3 Management elevation of importance of this outcome.			
Public Engagement: Development of a plan to communicate findings with the public, elected officials and the Bay Program.	Launch of the Chesapeake Bay Land Change website including development of land change forecasts.	No work done on the development of a Local Engagement Strategy that will integrate and disseminate results of land use methods and metrics outcome and land use options evaluation outcomes.	3.1, 3.2			

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	Map and ReMap High-res land cover/use: 2013/14; 2017/18; 2021/22	Using the best available methods, map high-res land cover/use wall-to-wall every four years, remapping previous years in the process.	Chesapeake Conservancy, University of Vermont	Watershed counties	Fall 2022, Summer 2024
1.2	Develop a parcel-scale historical land use dataset, 1985 – 2013	Using USGS' LCMAP data and tax parcel polygons for the Chesapeake Bay watershed, develop a historical dataset of change.	USGS	Watershed counties	Summer 2023
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)	Assess the effects of land use change from 2013/14 – 2017/18 – 2021/22 in CAST	USGS, CBPO Modeling Team	Watershed counties	Fall 2021, Fall 2023, and Fall 2025
		Assess the impact of future 2025 land use scenarios (Land Policy BMPs) on nutrient and sediment pollutant loads	USGS	Watershed counties	Fall 2021, Fall 2023, and Fall 2025
		Assess the impact of future 2050 land use scenarios on nutrient and sediment loads			Summer 2019 and periodically updated
2.2	Quantify impact of land conversion on healthy watersheds, wildlife, and stream habitats	Identify specific components of "health" and "habitat" to be evaluated	CBP Habitat and Healthy Watersheds GITs	State-identified healthy watersheds and habitats of interest	Fall 2020, updated every two years
		Assess changes to health and habitat metrics based on high-resolution land use (1985 – 2013, 2013/14 – 2021/22)	USGS		Fall 2020, updated every two years
		Forecast changes in land cover/use through 2050 and relate to potential changes in health and habitat metrics	USGS		Fall 2020, updated every two years

2.3	Quantify impact of land conversion on communities	Identify specific components of "communities" to be evaluated.	LGAC, Diversity Workgroup, LUWG, CCP	Watershed counties	Fall 2022
		Assess changes to community metrics based on high-resolution land use (1985 – 2013, 2013/14 – 2021/22)	USGS	Watershed counties	Summer 2022
		Forecast changes in land cover/use through 2050 and relate to potential changes in communities	USGS	Watershed counties	Summer 2022
Management Approach 3: Participate in the development of a Local Engagement Strategy that will integrate and disseminate results of land use methods and metrics outcome and land use options evaluation outcomes.					
3.1	Link the results of the Land Use Methods and Metrics Outcome Land Use Options Evaluation Workplan	Develop communication products and develop/implement communication strategies for target audiences.	USGS, CBPO Web Team	Watershed counties	Spring 2023
3.2	Chesapeake Bay Land Change storymap and website	Develop land change storymap	USGS, CBPO Web Team	Watershed counties	Fall 2021
		Develop land change website	USGS, LUWG	Watershed counties	Spring 2023