BIENNIAL STRATEGY REVIEW SYSTEM
Chesapeake Bay Program

Logic and Action Plan: *Post*-Quarterly Progress Meeting

Healthy Watersheds – 2020-2021

*[NOTE: make sure to edit **pre**- or **post**- in the text above, to tell the reader whether this logic and action plan is in preparation for your quarterly progress meeting or has been updated based on discussion at the quarterly progress meeting.]*

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

Instructions: Before your quarterly progress meeting, provide the status of individual actions in the table below using this color key.
Action has been completed or is moving forward as planned.
Action has encountered minor obstacles.
Action has not been taken or has encountered a serious barrier.

Additional instructions for completing or updating your logic and action plan can be found on ChesapeakeDecisions.

Factor	Current Efforts	Gap	Actions	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 help fill this gap) to achieve our outcome?*	*What will we measure or observe to determine progress in filling identified gap?*	*How and when do we expect these actions to address the identified gap? How might that affect our work going forward?*	*What did we learn from taking this action? How will this lesson impact our work?*
Scientific and Technical Understanding: locating healthy waters and watersheds	Individual jurisdictional efforts to monitor, assess and determine watershed health	-Need continued assessments to determine if state-identified healthy waters and watersheds (SIHW) are still healthy	**1.1** Continue gathering inventory of healthy watersheds	Periodically update SIHW maps and data layers reflecting changes.	Demonstrate where healthy waters and watersheds are over time.	

		-Assessments to identify new SIHW. -Lack of funding for increased monitoring for unassessed waters -improved understanding of watershed health metrics that rely on monitoring.				
Scientific and Technical Understanding: determining healthy watershed vulnerabilities	Develop and apply tools or methods that integrate various inputs to characterize watershed vulnerability to future high-level risks.	-Need more information on watershed condition, urban growth proximity/pressure, energy development trends, water demand forecasts, invasive species threats, upstream activities, land ownership type, future transportation infrastructure plans, climate change, sea level rise, marsh migration, underlying geology, rising stream temperatures, long term monitoring and evaluation of land conversion and other factors.	**1.2** Develop vulnerability information	Chesapeake Healthy Watersheds Assessment (CHWA) – Vulnerability Metrics	Improved statistical assessment will better guide metric selection, potential indicator development, and future outcome tracking Provide resources to prevent harm (policies, plans, incentives and tools) related to land use change.	
Scientific and Technical Understanding: information to prioritize healthy watershed protection	Collaborate with other goal teams to compile information on state and federal land protection priorities and determine overlap with high-risk healthy watersheds for additional protective measures when appropriate.	-Need to understand which healthy watersheds are vulnerable and why. - Understanding and "thresholds" or "signals of change" from at risk species, living resources or water quality perspective. -Be able to communicate those	**1.3** Prioritize protection	Increased cross-GIT or WG activity such as co-meetings, workshops, tool and product sharing, GIS and other data sharing, and GIT funded projects	Communicate and understand how SIHW are becoming more or less protected through land conservation and other mechanisms.	

		vulnerabilities to stakeholders to help prioritize protection. -Be able to communicate ways to effectively address vulnerabilities make watershed and communities more resilient (in coordination with land conservation and land use outcomes)		Track proportion of SIHW that are protected and assess vulnerability to land conversion over time.		
Scientific and Technical Understanding: further technical assessment activities	Efforts to utilize assessment information and incorporate newly available information	-Need to complete vulnerability assessment and framework to determine additional needs. -Need additional state capacity. -Need to refine audience(s) and potential use of final products to better guide future assessment work. Improved user needs assessment and decision support:– 1. How can land use and land use change information best be communicated to select targeted audiences to inform land use and land conservation decisions? 2. Understanding end user needs (of different	**1.4** Maintain and expand assessment activities and information			

		stakeholder audiences) 3. Improvements to data and communication to meet local needs				
Scientific and Technical Understanding:– population growth	Phase 6 Land Change model outputs related to conversion of natural lands to development	Understand how conversion of natural lands to development puts pressure on healthy watersheds -What will COVID impacts be on land use and development patterns?	**1.2** Develop vulnerability information			
Dissemination of Scientific Information, data and tools: Public, Landowner Engagement and DEIJ Considerations	Both outreach and education aimed at key stakeholders related to the resources and tools available. Outreach efforts focused on 1) the importance and value of local waters, and 2) the tools that are available to protect local waters Developing WIP III informational resources Understanding of relationships and intersections of data between healthy waters and watersheds and at risk and underserved communities.	-The values associated with maintaining healthy watersheds have too often not been adequately or consistently conveyed to local communities. -Communication and outreach with landowners to ensure they are participating in practices that maintain and protect high quality waters on or adjacent to their property -Translate, format, package and flow information through to trusted sources so that stakeholders can obtain accurate and current information. -Understand target audience needs -Underrepresented communities are not	**2.1** Outreach, including: effectively conveying information on the status of healthy watersheds to local stakeholders **2.2** Identify the various tools that may be used, primarily by local governments, to protect healthy watersheds **3.2** Implement new or improve existing policy/programs/research **4.1** Provide a valued forum for mutual learning and exploration **4.2**			

		present in plan development and decisions making.	Develop information resources and support communications			
Dissemination of Scientific Information, data and tools: Legislative Engagement		-Enhancements are needed for scientific, technical and policy tools, and for approaches to engage and involve local jurisdictions in protection efforts. -Inclusion of healthy watersheds in Phase III WIPs -including healthy watershed considerations new or refined jurisdictional legislation.	**2.1** Outreach, including: effectively conveying information on the status of healthy watersheds to local stakeholders	-Identify if information about healthy watersheds and healthy watershed protection were included in the Phase III WIPs		
Dissemination of Scientific Information, data and tools: Local Government Agency Engagement	Work related to quantifying and reducing the rate of conversion of natural lands to development. Direct coordination with local stakeholders to get relevant data, information and tools into the hands of managers on the ground.	-Need to understand how to package materials in effective manner and how to get those materials to the correct audience/ outreach and communication with local decision makers. -Work on effectively engaging with locals directly	**2.1** Outreach, including: effectively conveying information on the status of healthy watersheds to local stakeholders **2.2** Identify the various tools that may be used, primarily by local governments, to protect healthy watersheds **3.2** Implement new or improve existing policy/programs/research			
Dissemination of Scientific Information,	Cross-management strategy coordination,	-The usage of existing tools is not universal, even within states.	**1.2** Develop vulnerability information	HWGIT staff will track all cross-outcome	Assess progress of coordination activities and	

data and tools: Partner Coordination	alignment for multiple benefits, analysis and data products at a Watershed-wide scale, and access to/connection to federal agencies	Furthermore, some tools are underdeveloped, poorly supported and unsuited for widespread sharing and/or integration.	**2.1** Outreach, including: effectively conveying information on the status of healthy watersheds to local stakeholders	actions, meetings, shared resource products, communication and outreach materials etc.	assess if they are meeting goals.	
			3.2 Implement new or improve existing policy/programs/research			
			4.1 Provide a valued forum for mutual learning and exploration			
			4.2 Develop information resources and support communications			
			4.3 Promote the science			
			5.1 Improved Cross-outcome coordination			
Dissemination of Scientific Information, data and tools: Use Conflict	Efforts to integrate living resources priorities with TMDL implementation efforts	Competing resources going to other environmental management and assessments such as the TMDL	**2.1** Outreach, including: effectively conveying information on the status of healthy watersheds to local stakeholders			
Management and Actions: Funding and Finances	Efforts to create incentives for land conservation in state-identified healthy watersheds.	Need more financial resources so that states and local governments can monitor and manage healthy watersheds; need a way to incentivize and credit conservation	**2.3** Leverage Funding			

Management and Actions: State Government Agency Engagement	State leadership on federal regulatory programs, primarily the Clean Water Act (CWA) Section 303, antidegradation, and CWA Section 319 program funds are closely tied to healthy watersheds	-States have taken different approaches to define and identify healthy watersheds, and likewise have different plans to improve their assessment and monitoring over time. -Need active participation from all states/ jurisdictions in the HWGIT -Improved understanding of healthy watershed jurisdictional needs, resources and accomplishments	**3.2** Implement new or improve existing policy/programs/research	Guest presentation on a healthy watershed or practices to sustain them at each GIT meeting.	Post case studies on CBP website as a resource repository.	
Management and Actions: Federal Government Agency Engagement	Continued communication with NOAA, USFS, NPS, USFWS and others. Emerging federal priorities and relationship to CBP efforts: ▫ America the Beautiful/30x30 ▫ America Outdoor Act ▫ FEMA Hazard Mitigation ▫ Global Sustainability measures ▫ Chesapeake WILD	Need engagement from federal agencies other than EPA in order to fully protect healthy watersheds	**3.2** Implement new or improve existing policy/programs/research **4.2** Develop information resources and support communications **4.1** Provide a valued forum for mutual learning and exploration **3.2** Implement new or improve existing policy/programs/research			

ACTIONS – 2020-2021					
Action #	**Description**	**Performance Target(s)**	**Responsible Party (or Parties)**	**Geographic Location**	**Expected Timeline**
Management Approach 1: Tracking Healthy Waters and Watersheds					
1.1	Continue gathering inventory of healthy watersheds	1. HWGIT State Data Leads, and HWGIT and CBPO GIS staff will continue to compile data on State-identified healthy waters and watersheds and update the master list and map of State-identified Healthy Waters and Watersheds	1. HWGIT state leads, CBPO GIS Team, USGS 2. HWGIT, STAR	1. Watershed-wide 2. Bay-wide	1. Ongoing 2. 2022
1.2	Develop vulnerability information	1. Assess which vulnerability factors are most important to consider. a. Assist jurisdictions in considering how to incorporate signals of change in SIHW assessments. b. Investigate how to report on whether we have lost any SIHW since agreement was signed. 2. Quantify impact of land conversion on healthy watersheds and habitats (LUMM). (see actions 1.1, 1.2, 2.1, 2.2, 2.3 in LUMM workplan) 3. Work with HWGIT and Stream Health Workgroup to identify factors influencing vulnerability of healthy watersheds and streams 4. Develop information and resources related to "spectrum of watershed health and vulnerability" a. Investigate and develop interim indicators related to impervious surface, protected	1. HWGIT, CBPO GIS Team, USGS 2. CBPO USGS, Land Use WG 3. HWGIT, HGIT, USGS 4. HWGIT, LUWG, CBPO GIS Team, USGS 5. HWGIT, Contractors, STWG, STAC, USGS	1. Watershed-wide 2. Watershed-wide 3. Watershed-wide 4. Watershed-wide 5. Watershed-wide	1. 2021 - 2023 2. 2021- 2023 3. 2021- 2023 4. 2021- 2023 5. 2021- 2023

ACTIONS – 2020-2021					
Action #	**Description**	**Performance Target(s)**	**Responsible Party (or Parties)**	**Geographic Location**	**Expected Timeline**
		lands and habitat suitability and resilience. b. Development of refined Healthy Watersheds Assessment 2.0 tool to communicate outcome progress. 5. Solicit guidance on additional vulnerability metrics and indicator development from STAC			
1.3	Prioritize protection	1. Assess protected status and development vulnerability of healthy watersheds 2. Compile and publish Chesapeake Bay Protected Lands Dataset a. improve data collection and the way the CBP Protected Lands indicator is maintained 3. Investigate updating the Farms, Forests, and Habitat CCP Priority with high-resolution land use/cover data 4. Investigate additional threats to high-valued lands using best available data related to development pressure and forest, farmland and wetland conversion utilizing the results of the Land Use Methods and Metrics Outcome as well as the CHWA (pending LUMM rates of conversion)	1. HWGIT 2. CBPO GIS Team, NPS, USGS 3. HWGIT, CBPO GIS Team, USGS 4. HWGIT, CBPO GIS Team, LUWG, USGS	1. Watershed-wide 2. Watershed-wide 3. Watershed-wide 4. Watershed-wide	1. 2021-2023 2. 2022 3. 2021-2023 4. 2021-2023
1.4	Maintain and expand assessment activities and information	1. Oversee implementation of the Chesapeake Healthy Watersheds Assessment.	1. HWGIT, CBPO GIS Team, USGS, MDE, Contractor	1. Watershed-wide 2. Watershed-wide 3. Watershed-wide	1. 2021 - 2023 2. 2021 - 2023 3. 2021 - 2023

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Action #	**Description**	**Performance Target(s)**	**Responsible Party (or Parties)**	**Geographic Location**	**Expected Timeline**
		a. Assess CHWA results and next steps for measuring progress towards achieving the Healthy Watersheds Outcome. b. Relate CHWA information to impaired waters and pollution information c. Assess changing conditions for all land cover metrics included in the CHWA d. Investigate best methods for keeping the CHWA updated e. Completion of GIT Funding project: Implementation of Chesapeake Healthy Watersheds Assessment in Maryland's Tier II watersheds 2. Investigate the potential to harness community-based monitoring to target monitoring in watersheds identified as "threatened" through the CHWA. a. Work with STAR to determine current and future monitoring needs and outline gaps 3. Investigate specific tracking questions outlined by GIT members and interested parties: a. Explore the develop new watershed characteristics of health and vulnerability using high resolution imagery and track them over time.	2. HWGIT, CBPO GIS Team, Land Use WG, STAR, USGS 3. HWGIT, CBPO GIS Team, Land Use WG, STAR, USGS		
Management Approach 2: Local Leadership – strengthen local commitment and capacity to protect their healthy watersheds					

ACTIONS – 2020-2021					
Action #	**Description**	**Performance Target(s)**	**Responsible Party (or Parties)**	**Geographic Location**	**Expected Timeline**
2.1	Outreach, including: effectively conveying information on the status of healthy watersheds to local stakeholders. Translate, communicate, and develop materials to convey local engagement needs related to sustaining healthy watersheds and reducing conversion of natural lands.	1. Work collectively to improve outreach strategies, and better get the word out across multiple Management Strategies to determine the best approaches and methods for reaching key stakeholders 2. Work with Local Leadership Workgroup (LLWG), Communications WG, and LGAC to implement Local Engagement Strategy (as it related to healthy watersheds) a. Coordinate with others on how to effectively compile and package resources for use in CBP outreach materials. b. Incorporate Healthy Watersheds TMDL Forest/Conserved Lands Retention Study Phase III and other related Land Use Options Evaluation Products (completed GIT funding project) c. Participation and coordination with webinars, conferences and other trusted sources to share data, information and resources related to watershed health, vulnerability, land use change and resources as well as cross outcome materials for local elected officials and other stakeholder audiences to convey policies, planning incentives and tools to reduce land conversion and sustain watershed health	1. HWGIT, LLWG, CBP Comm Team, LGAC 2. HWGIT, Local Leadership WG, Land Use Workgroup	1. Watershed-wide 2. Watershed-wide	1. 2021-2023 2. 2021-2023

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Action #	**Description**	**Performance Target(s)**	**Responsible Party (or Parties)**	**Geographic Location**	**Expected Timeline**
		d. Identify 1-2 case pilot jurisdictions where healthy watersheds are present, and they have demonstrated the desire to sustain them. (What actions have been successful there?).			
2.2	Identify the various tools that may be used, primarily by local governments, to protect healthy watersheds Advancing the DEIJ Strategy by integrating equity into our work	1. Gather, summarize and place on the Chesapeake Bay Program website or other locations as determined in the Local Leadership Management Strategy an approach for improving transfer of knowledge to locals, existing studies and reports on the costs, benefits and effectiveness of both local and state level land use policy options, incentives and planning tools 2. Oversee, serve on steering committees, workshop planning teams, small groups and action teams to facilitate cross outcome coordination and assurance that healthy watershed resources and information is made available for complementary efforts.	1. HWGIT, Local Leadership WG 2. HWGIT Coordinator, HWGIT, Contractors 3. HWGIT Coordinator, HWGIT, Diversity WG	1. Watershed-wide 2. Watershed-wide 3. Watershed-wide	1. 2021-2023 2. 2021- 2023 3. 2021-2023
2.3	Leverage Funding	1. Incorporate healthy watershed protection into the RFPs and scoring tools used to award federal and state water quality grants.	1. HWGIT	1. Watershed-wide	1. 2021-2023
Management Approach 3: Federal and State Leadership					
3.1	Leverage Funding				

ACTIONS – 2020-2021					
Action #	**Description**	**Performance Target(s)**	**Responsible Party (or Parties)**	**Geographic Location**	**Expected Timeline**
3.2	Implement new or improve existing policy/programs/research	1. Guide development of GIT Funding project: a. Implementation of Chesapeake Healthy Watersheds Assessment in Maryland's Tier II watersheds b. Work with other Jurisdictions to identify other state specific datasets that can/should be incorporated into future assessments. 2. Investigate how to incorporate SIHW or CHWA into NRCS source water protection funding and efforts by Chesapeake Conservation Partnership to protect drinking water. (coordination with 1.3) 3. Cooperation with other partners on how CBP and CHWA efforts can informs other federal programs and initiatives a. America the Beautiful/30x30 b. America Outdoor Act c. FEMA Hazard Mitigation d. Global Sustainability measures e. Chesapeake WILD 4. Present CHWA to NOAA's North Atlantic Regional Team. 5. Engage with federal agencies other than EPA (such as FERC and DOT) to leverage opportunities within those agencies so that they can set the stage for state and local	1. HWGIT, MDE 2. WGIT,USGS NRCS 3. HWGIT, USGS, CBPO, CCP, USFS 4. HWGIT, NOAA 5. HWGIT, EPA, Other feds. 6. HWGIT, EPA 7. HWGIT	1. Watershed-wide, MD 2. Watershed-wide 3. Watershed-wide 4. NA 5. NA 6. NA 7. Watershed-wide	1. 2021-2023 2. 2021-2023 3. 2021-2023 4. 2021-2023 5. 2021-2023 6. 2021-2023 7. 2021-2023

ACTIONS – 2020-2021					
Action #	**Description**	**Performance Target(s)**	**Responsible Party (or Parties)**	**Geographic Location**	**Expected Timeline**
		governments to further healthy watershed protection 6. Continue integrating healthy watershed protection into EPA water programs. Thus far EPA has made progress on integrating protection in the 319 program, 303(d) program and into source water protection 7. Share information on newly launched Healthy Watersheds Consortium Grant and annual opportunities for states and others to submit proposals for sub-grants			
Management Approach 4: Support State-based Efforts					
4.1	Provide a valued forum for mutual learning and exploration	Continue meeting 5-6 times a year and at meetings continue hosting case study presentations related to healthy watershed protection/tracking	1. HWGIT	1. NA	1. 2021-2023
4.2	Develop information resources and support communications	1. Work with Communications Team to develop messages and resources 2. Share presentations, slides, pictures, graphics, storymaps to help partner agency staff prepare presentations, reports, etc. with effective healthy watersheds messages. 3. Investigate determine how best to incorporate DEIJ considerations into our CHWA framework. a. Develop maps and resources investigating the relationships between watershed health and vulnerability as related to high risk, underserved, low income	1. HWGIT, Communications Team 2. HWGIT 3. HWGIT, HWGIT Coordinator	1. NA 2. NA 3. Watershed-wide	1. 2021-2023 2. 2021-2023 3. 2021-2023

ACTIONS – 2020-2021					
Action #	**Description**	**Performance Target(s)**	**Responsible Party (or Parties)**	**Geographic Location**	**Expected Timeline**
		or percent non-white communities?			
4.3	Promote the science	1. Continue to work with the Chesapeake Bay Program and partners to quantify and incorporate conservation practices into the Chesapeake watershed modeling efforts and to explore how land use protections might be used to quantify future pollutant load reduction incentives for land conservation	1. HWGIT, USGS	1. Watershed-wide	1. 2021-2023
Management Approach 5: Improved cooperation, coordination and integration					
5.1	Improved Cross Outcome Coordination: Committed coordination and cooperation with key CBP workgroups to assure shared resources, information and priorities while reducing duplication of efforts. Key complementary groups include: Stream Health, Fish Habitat, Brook Trout, Climate Resiliency, Protected Lands, Land Use, Forestry, Diversity, Wetlands, Local leadership*, LGAC*, Communications* (*See section 2.1 and 4.2 for specific local engagement and communication actions)	1. HWGIT staff to attend meetings of "sibling" groups to facilitate coordination. a. Work with CRWG to develop and improved climate vulnerability metrics in the CHWA b. Track forest cover and provide regular updates on forest gain/loss (FWG) c. Conduct GIS assessments to identify key high value brook trout habitat to conserve and those areas that are considered marginal and in need of restoration (HGIT, FHWG) (utilizing Cross GIT mapping and other CBP resources). d. Expand assessment activities and information for forests and forest conservation (with input and cooperation with Forestry and Land use work groups).	1. HWGIT, "sibling" WGs 2. HWGIT, SHWG, FHWG 3. HWGIT, CCP, CBP Communications Team, Local Leadership WG 4. HWGIT, Communications Team, Climate Resiliency WG, other CBP groups	1. NA 2. NA 3. NA 4. NA	1. 2021-2023 2. 2021-2023 3. 2021-2023 4. 2021-2023

ACTIONS – 2020-2021					
Action #	**Description**	**Performance Target(s)**	**Responsible Party (or Parties)**	**Geographic Location**	**Expected Timeline**
		2. Investigate how the CHWA can help inform other outcome a. Work with Stream Health and Fish Habitat workgroups directly to identify shared data and assessment needs 3. Facilitate the sharing of information related to conservation finance mechanisms with CCP and Healthy Waters/Forest Retention Project-Phase III: Final Report for Chesapeake Bay Trust (See Action 2.1 task 2 above) 4. Host occasional shared meeting with central cross-coordination topic for discussion.			