

This draft version of the biennial workplan was submitted to the Habitat GIT for submittal to the Management Board for review. Comments indicate edits made to the workplan following submittal. The Stream Health Work Group requests input from the Stormwater Work Group on Key Action 11. This action is included in the work plan based on input from STAC in response to recommendations from the “Designing Sustainable Stream Restoration Projects in the Chesapeake Bay”. The final report from the STAC workshop was published May 2015.

Management Approach 1:								
Key Action <i>Description of work/project. Define each major action step on its own row. Identify specific program that will be used to achieve action.</i>	Performance Target(s) <i>Identify incremental steps to achieve Key Action</i>	Partners Responsible <i>Identify responsible partner for each step.</i>	Geographic Location	Timeline <i>Identify completion date (month and year) for each step.</i>	Estimated Project Cost <i>Best estimate total cost of project (need)</i>	Available funding by Partner	Total Available Funding <i>Roll up of estimated funding</i>	Factors Influencing and/or Gap <i>ID related factor or gap in Mgmt. Strat</i>
1. Update and refine the Chesapeake Bay Basin-wide Index of Biotic Integrity (“Chessie BIBI”) for streams	1. Updating the database will be completed Nov 2015. The following remaining steps will be completed in 2016. 2. Metric and index calculations 3. Index sensitivity improved 4. Bioregion under-representation analysis 5. Genus-level metrics tested	ICPRB	Chesapeake Bay Watershed	Steps 2-5: Apr 2016 Final report completed Sept 2016	Currently funded			It is a biological endpoint that will reflect the improvements in stream health and function called for in the 2014 Chesapeake Watershed Agreement. ¹⁰ At this time, the index needs to be updated with the most recent macroinvertebrate data.
2. Establish 2008 baseline and approach for determining future trends (% change)	1. Provide stream representation comparable to CBWM Phase 6 including 1 st -4 th order streams (also reconcile differences in scale from various sampling programs, 1:24K v 1:100k) 2. Develop method to express	ICPRB USGS Technical Advisory Group	Chesapeake Bay Watershed	Final report completed Sept 2016	Currently funded			Chessie BIBI currently not reported in stream miles (<i>not included as a factor influencing or gap but necessary metric to be</i>

	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							<i>developed for outcome)</i>
3. Determine and report progress	1. Periodically acquire and process available stream data from Bay States and District of Columbia 2. CBP calculate and report % change in Chessie BIBI index	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	Dec. 2017	\$20,000			Undesignated responsible party and funding to track and report updated Chessie BIBI
4. Identify practicable metrics consistent with BMP verification guidance to credit projects for N, P, and sediment load reductions and stream functional improvements for overall improvement in stream health, and 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	Chesapeake Bay Watershed	January 2016 – ongoing (need to check with Verification Committee)	Funding for SHWG coordinator, In-kind	NA	NA	Robust stream restoration monitoring to evaluate the potential functional lift or improvement in stream functions from BMP implementation
Management Approach 2:								
Key Action <i>Description of work/project. Define each major action step on its own row.</i>	Performance Target(s) <i>Identify incremental steps to achieve Key Action</i>	Partners Responsible <i>Identify responsible</i>	Geographic Location	Timeline <i>Identify completion date</i>	Estimated Project Cost <i>Best estimate</i>	Available funding by Partner	Total Available Funding	Factors Influencing and/or Gap

Identify specific program that will be used to achieve action.		partner for each step.		(month and year) for each step.	total cost of project (need)		Roll up of estimated funding	ID related factor or gap in Mgmt. Strat
5. Implement pooled monitoring approach throughout Chesapeake Bay watershed	<div>1. Provide input to existing pooled monitoring research program, including topics</div> <div>2. Develop strategy for monitoring database/clearinghouse</div> <div>3. 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 group and the Stream Health Work Group, participate in key expansion/development efforts.</div> <div>4. Help organize and lead, with the Maryland Water Monitoring Council Monitoring Work Group and the existing CBT Pooled Monitoring advisory group, efforts to disseminate results, including but not limited to an annual forum to expose regulatory, practitioner, and manager audiences to regulatory- and practice-relevant research outcomes.</div>	<div>Ad-hoc Pooled Monitoring Committee facilitated by CBT</div> <div>*Maryland Stream Restoration Association representative (Scott Lowe) address expansion of effort Bay-wide. VA DEQ interested</div> <div>ICPRB Mike Mallonee as potential contact for database development inquiries</div>	<div>Maryland (current effort)</div> <div>District of Columbia, Virginia interested jurisdiction</div> <div>Potential Chesapeake Bay Watershed</div>	December 2017				<div>Sufficiency of data to demonstrate effectiveness of stream restoration practices</div> <div>Investments in research to improve the body of knowledge surrounding restoration techniques and net benefit to stream and watershed health.</div>

	5. With the existing pooled monitoring advisory group, evaluate potential and develop a plan for expansion across the watershed*							
6. Identify use and best application of current and research-based monitoring efforts to advance implementation of stream restoration practices and projects	1. Hold Bay wide stream monitoring charrette to identify use and application of current regulatory and research-based monitoring efforts		Chesapeake Bay Watershed					Investments in research to improve the body of knowledge surrounding restoration techniques and net benefit to stream and watershed health.
Management Approach 3:								
Key Action <i>Description of work/project. Define each major action step on its own row. Identify specific program that will be used to achieve action.</i>	Performance Target(s) <i>Identify incremental steps to achieve Key Action</i>	Partners Responsible <i>Identify responsible partner for each step.</i>	Geographic Location	Timeline <i>Identify completion date (month and year) for each step.</i>	Estimated Project Cost <i>Best estimate total cost of project (need)</i>	Available funding by Partner	Total Available Funding <i>Roll up of estimated funding</i>	Factors Influencing and/or Gap <i>ID related factor or gap in Mgmt. Strat</i>
7. 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	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. Review and analysis of stream restoration permits and process (TBD) 5. Provide recommendations	Stream Health Work Group/suggested membership of Committee US ACE (North Atlantic Division) EPA MDE VA DEQ, VMRC Anne Arundel County	Chesapeake Bay Watershed	January 2016 - ongoing				Information needs to support innovative, effective design approaches to identify restoration potential and success for different land uses, stream types, and current and future site constraints, causes

permit review process	to Stream Health Work Group (and Bay Program Partnership) on priority actions to streamline stream restoration project permit review process	Fairfax County PA DEP DC DOEE Other jurisdictional rep (DE, WV, NY)						of impairment/stressors
8. Work with federal, state regulatory agencies and local governments to develop streamlined process to evaluate WIPs, MS4 restoration plan or other relevant site analyses as sufficient documentation for alternative site analysis in support of stream restoration permits	1. Convene Stream Health Restoration Permit Committee 2. Develop case study permit examples 3. Review criteria and guidance for site selection alternatives analysis 4. Review example WIPs and other watershed or site level analyses to provide information needs for site alternative analysis 5. Recommend guidance for using WIPs, or other documentation to satisfy site alternatives analysis requirement for permits 6. Identify steps to implement recommended guidance	MDE*, MD DNR, DOEE, VADEQ interested And/or Stream Health Work Group/ - may be membership of Stream Restoration Permit Committee , representatives from MACO *MDE (performance targets may differ as per 9/14/15 letter to MD Counties from MDE)	Maryland, Virginia, District of Columbia (interested) And other Chesapeake Bay jurisdictions pending	January 2016 – June 2016				Information needs to support innovative, effective design approaches to identify restoration potential and success for different land uses, stream types, and current and future site constraints, causes of impairment/stressors

9. Develop a streamlined permit review process, which does not require changes to existing Federal and state laws and regulations, for stream restoration projects.	<ol style="list-style-type: none">1. Convene Stream Health Restoration Permit Committee2. Identify factors influence (e.g, laws, regulations, policies) that could influence a streamlined review process stream restoration projects.3. Develop list of criteria to determine project qualifications for the streamline permit review process4. Recommend guidance for a streamlined review process including timelines.5. Establish a list of tools that could assist both regulators and permit applicants using the streamlined review process.6. Identify steps to implement recommended guidance	MDE*, DOEE, VADEQ interested And/or Stream Health Work Group/ - may be membership of Stream Restoration Permit Committee *MDE (performance targets may differ as per 9/14/15 letter to MD Counties from MDE)	Maryland, Virginia, District of Columbia (interested) And other Chesapeake Bay jurisdictions pending					Information needs to support innovative, effective design approaches to identify restoration potential and success for different land uses, stream types, and current and future site constraints, causes of impairment/stressors
10. Establish minimum stability monitoring requirements for restoration projects	<ol style="list-style-type: none">1. Convene Stream Health Restoration Permit Committee2. Identify minimum stability monitoring assessment parameters and standards3. Document how higher level performance monitoring assessment parameters (i.e., water quality and biology) will	K. Mantay (South River Federation lead coordination of action (FWS, MDE, Severn River Keeper interested	Chesapeake Bay Watershed					Sufficiency of data to demonstrate effectiveness of stream restoration practices

	4. be assessed Recommend guidance for minimum stability monitoring and incorporate into BMP Verification Guidance 7. Identify steps to implement recommended guidance	involved. VA DEQ, DOEE interest to participate						
Management Approach 4								
Key Action <i>Description of work/project. Define each major action step on its own row. Identify specific program that will be used to achieve action.</i>	Performance Target(s) <i>Identify incremental steps to achieve Key Action</i>	Partners Responsible <i>Identify responsible partner for each step.</i>	Geographic Location	Timeline <i>Identify completion date (month and year) for each step.</i>	Estimated Project Cost <i>Best estimate total cost of project (need)</i>	Available funding by Partner	Total Available Funding <i>Roll up of estimated funding</i>	Factors Influencing and/or Gap <i>ID related factor or gap in Mgmt. Strat</i>
11. Establish joint SHWG and USWG work group as per STAC recommendation to develop guidance (e.g., via an expert panel) optimize stream restoration projects to reduce excess nitrogen, phosphorus, and sediment loads delivered downstream, as well as benefit instream aquatic life to improve Chesapeake Bay BIBI. Also use work group to address other technical issues identified in STAC Workshop on Sustainable Stream Restoration.	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. Get approval from SHWG and USWG	Suggested Possible STAC lead SHWG reps USWG reps.	Chesapeake Bay Watershed	January 2017	Funding for SHWG coordinator, In-kind	NA	NA	Uniform design process for stream restoration that can measure change in stream functions and/project success based on a project goals and objectives. Specific to the Bay TMDL, a design process for restoration projects to reduce nutrient and sediments loads delivered downstream while at the same time ensuring optimal habitat conditions restored.

Review and provide recommendations for the water quality impairment listing and TMDL process to determine the best way to address impairments that are not associated with a pollutant TMDL (e.g. categorized as 4c (pollution)) which are typically associated with habitat impairments	<div>1. Coordinate with reps from MDE (Water Sc involving TMDL and MS4 Programs.</div> <div>2. Review Biological Stressor Identification (BSID) Analysis, sediment TMDLs and MS4 permits to determine best way for biological stressors identified by the BSID and classified as 4c can be addressed.</div> <div>3. Work with other states to address issue</div> <div>4.</div>	<div>Suggested Liaison from SHWG</div> <div>VA DEQ, WV, PA DEP, FWS, MD DNR, MDE interested</div>	<div>Maryland, Virginia, Pennsylvania, District of Columbia</div>	<div>December 2017</div>	<div>Funding for SHWG coordinator, In-kind</div>	<div>NA</div>	<div>NA</div>	<div>Targeting procedures for cost-effective restoration actions and design approaches that will achieve both water quality and biological functional improvement</div>
13. Provide stream training to regulators and practitioners	<div>1. Convene joint Stream Health and Urban Stormwater Work Group (see also Strategy 4, Action 8)</div> <div>2. Identify priority training needs</div> <div>3. Secure funding for training and training provider (tech lead)</div> <div>4. Develop training workshop(s) content</div> <div>5. Identify steps to implement recommended training</div>	<div>Joint work group/identify training provider</div>	<div>TBD based on training needs identified</div>	<div>Ongoing</div>				
Management Approach 5:								
<div>Key Action</div> <div>Description of work/project. Define each major action step on its own row. Identify specific program that will be</div>	<div>Performance Target(s)</div> <div>Identify incremental steps to achieve Key Action</div>	<div>Partners Responsible</div> <div>Identify responsible</div>	<div>Geographic Location</div>	<div>Timeline</div> <div>Identify completion date (month and</div>	<div>Estimated Project Cost</div> <div>Best estimate total cost of</div>	<div>Available funding by Partner</div>	<div>Total Available Funding</div>	<div>Factors Influencing and/or Gap</div>

Commented [NL1]: Action edited to reflect discussion with state representatives on 11/4 meeting (DC, MD, VA, NY, PA, WV)

<i>used to achieve action.</i>		<i>partner for each step.</i>		<i>year) for each step.</i>	<i>project (need)</i>		<i>Roll up of estimated funding</i>	<i>ID related factor or gap in Mgmt. Strat</i>
14. Provide training and education materials to local officials on stream restoration and health	<div>1. USC work with PA Local Technical Assistance Program (LTAP) to disseminate Upper Susquehanna Coalition Emergency Stream Intervention initiative</div> <div>2. SHWG provide input on stream health to Local Leadership Work Group to assist with development of curriculum for watershed protection and restoration</div>	<div>USC (pending discussion)</div> <div>Local Leadership Work Group/Cross-GIT Coordinator</div>	Chesapeake Bay Watershed	Placeholder pending further discussions with USC and LLWG	Pending future funding			

Commented [NL2]: Action pending input from USC and additional input from Local Leadership Work Group to develop common language amongst work plans