

Climate Resiliency Workgroup

Steering Committee Meeting

December 19, 2016

2016 CRWG Meeting Summary

- **In-Person Meetings**

- March
- May
- July
- Sept
- November – Workshop

- **Conference Calls**

- January
- April
- June
- August
- October - Webinar

Climate Resiliency Workgroup

2017 Meeting Schedule

Proposed

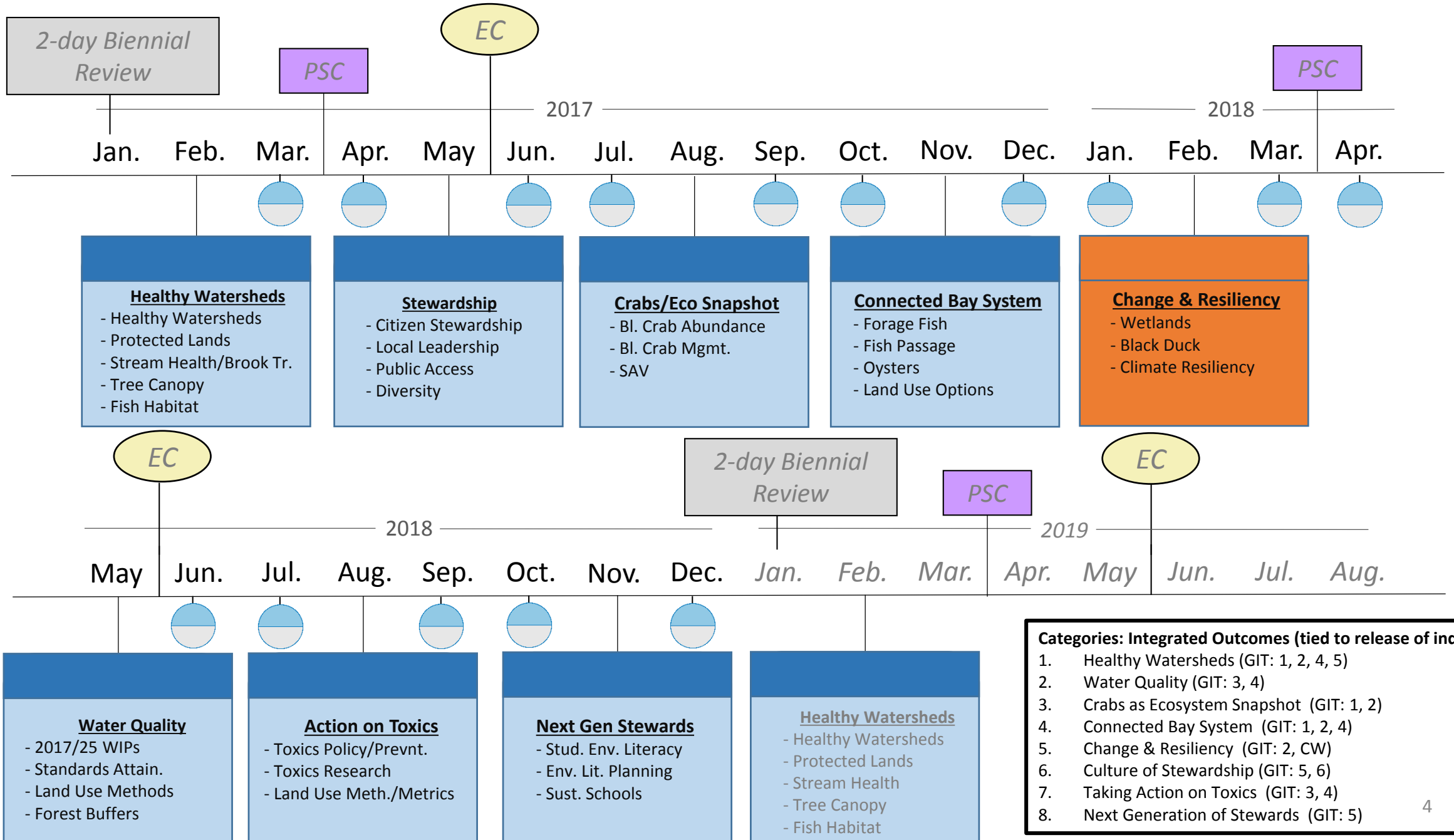
Quarterly Face to Face Meetings, 9am-4pm, CBPO Fishshack

- March 20, 2017
- June 19, 2017
- Sept 18, 2017
- Dec 18, 2017

Monthly Conference Calls, 1pm-3pm, CBPO 305

3rd Monday (1:30 p.m. – 3:30 p.m.) of every month that is not a Quarterly Meeting month, except Jan and Feb (need to check availability)

Chesapeake Bay Program Biennial Strategy Review System – DRAFT Schedule



Quarterly Progress Meetings

Purpose / Goal: To improve the success of meeting our Watershed Agreement commitments through the collective review of progress on individual Outcomes; identification of what is and is not working and new developments in the scientific, fiscal arenas; and the resulting implementation of necessary adaptations to our Management Strategies and Biennial Workplans.

When: Quarterly Management Board meetings.

Who: Management Board Leaders and Members, Goal Implementation Team (GIT) and associated Workgroup Leaders and Members, Advisory Committee Chairs, and invited outside experts.

Guiding Questions:

1. Are we on pace to meet our committed Watershed Agreement Outcome by 2025?
 2. What obstacles exist to meeting our Outcome and what potential solutions exist to overcome those obstacles?
 3. What new opportunities have presented themselves and how can our strategies be modified to take advantage of those opportunities?
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Objectives:

1. Assess strategy implementation – are we doing what we said we would do and are we getting the results we expected?
 2. Update our understanding of the system – what is working, what is not working, what new developments or understandings have occurred since we began?
 3. Identify potential strategy adaptations justified by the current assessment – what, if any, changes to our strategies are warranted based on our evaluation?
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Inputs:

1. Are we on a trajectory to achieve our stated Outcome?
2. How successful are we are implementing our current Biennial Workplan?
 - a. Where are we exceeding expectations and why?
 - b. Where are we falling short of expectations and why?
 - c. What new developments or understandings have occurred that were not taken into consideration in developing the original Workplan?
3. What new changes are required to the Workplan, what new partners do we need to reach out to in order to improve our chances of success?

CRWG Workgroup Priorities - 2016

1. Water Quality and the 2017 Mid Assessment – **May/Oct 2016**
2. Monitoring Needs and Long Term Trend Assessments
3. Climate Data and Information Portals
4. Communications, Outreach, Education and Capacity Building
5. Green Infrastructure and Coastal Resiliency – **March 2016**
6. Research Agenda, Capacity and Needs – **July 2016**
7. Ocean Acidification
8. Climate Change and Diversity – **Sept. 2016**
9. Climate Impact Vulnerability Assessments
10. Climate Change Indicators and Performance Metrics

CRWG Work Plan 2016 Progress

Status Review, Gap Analysis & Next Steps

- Implementation Status
 - Completed, on track, delay or no action/infeasible
- What's missing ?
 - Should we add a new performance target to work plan
- Opportunities to fill gaps?
 - STAC Workshop Ideas
 - 2017 GIT Funding
 - New jurisdictional/organizational commitment
- What seems infeasible?

Outcome: Monitoring & Assessment

DRAFT STATUS
UPDATE – For
Discussion
Purposes only

Monitoring and Assessment Outcome: Continually monitor and assess the trends and key impacts of changing climate and sea level conditions on the Chesapeake Bay ecosystem, including the effectiveness of restoration and protection actions, programs and projects.				Complete
				On track, progress ongoing
				Some challenges or delay
				No action
Management Approach: Define Goals and Establish Baselines, Develop Conceptual Modeling, Modeling and Assessment Models, and Prioritize Climate Impacts				
Key Action (Description of work/project)	Performance Target(s) (Performance Metric/Action Key Action)	Participating Entity (Primary) (Secondary)	Timeline (Completion Date: month & year)	Status
Develop and implement a methodology to establish climate related goals and baselines for individual Chesapeake Bay Agreement Management Strategies.	Develop a literature Review of existing ecosystem-based climate resiliency approaches, including: 1) data, methods, and processes or decision-making products.	State Resiliency Workgroup, Wetlands Workgroup, Chesapeake Conservation Partnership	May 14	On track (Development of Baseline Data Report and Tidal Wetlands/Black Duck Tidal Wetlands)
	Develop working climate change vulnerability research and data, including available assessment products and tools, specific to local and global watersheds/estuaries, within the Chesapeake Bay region.	State Resiliency Workgroup, Wetlands Workgroup, Chesapeake Conservation Partnership	Jan 16	On track (Development of Baseline Data Report and Tidal Wetlands/Black Duck Tidal Wetlands)
	Conduct a Climate Resiliency Analysis and Decision Making Matrix to enable the assessment of climate impacts on existing management goals and actions and the effect of climate change on the performance of specific management practice elements.	State Resiliency Workgroup, Wetlands Workgroup, Chesapeake Conservation Partnership	Jan 16	Progress ongoing (Task: Tact)
	Conduct a review of approaches to factor climate change considerations into the 2017 Chesapeake Bay TMDL Midpoint Assessment	State Resiliency Workgroup, CAP Modeling Workgroup, DAC	Apr 14	On track (Finalizing and Submitting for Review Climate Considerations in the Subtotal/Total TMDL Environmental Compliance Data)
Management Approach: Design Monitoring and Modeling Plan				
Key Action (Description of work/project)	Performance Target(s) (Performance Metric/Action Key Action)	Participating Entity	Timeline (Completion Date: month & year)	Status
Design monitoring and modeling plan for 4 water Chesapeake Bay Agreement Management Strategies.	Review and evaluate the continuity of existing monitoring data and models with federal agencies, state partners, and academic partners, to explore climate factors of interest to the Bay Program Partnership (i.e., sea level rise, precipitation, temperature) in the watershed catchment.			N/A
	Work with select Workgroups to determine current and future monitoring needs by geography, habitat type, and BMP and outline gaps in monitoring or data needs.	CSA	Jan 17	Initial engagement letters sent to Ecology, Bay, Black Duck, System Health and Fish Habitat Management
	Define gaps for watershed scale monitoring effort, including gaps related to monitoring of non-climate drivers that could moderate climate impacts to Chesapeake Bay habitat or BAP.	CSA	Jan 17	No action to date
	Identify opportunities to better integrate data collected by the NOAA Chesapeake Bay Sentinel Site Cooperative (SSC) with CAP monitoring efforts.	State Resiliency Workgroup, Chesapeake Bay Sentinel Site Cooperative (SSC)	Mar 17	Progress ongoing
Develop a plan to fill identified gaps.	Address the use of citizen-based monitoring networks.	CSA, Alliance for the Bay	Jan 17	No action to date
	Identify opportunities to better integrate data collected by the NOAA Chesapeake Bay Sentinel Site Cooperative (SSC) with CAP monitoring efforts.	CSA, Trust Unlimited	Jan 17	No action to date
	Identify opportunities to better integrate data collected by the NOAA Chesapeake Bay Sentinel Site Cooperative (SSC) with CAP monitoring efforts.	CSA	Jan 17	No action to date
	Identify opportunities to better integrate data collected by the NOAA Chesapeake Bay Sentinel Site Cooperative (SSC) with CAP monitoring efforts.	CSA	Jan 17	No action to date
Management Approach: Assess past and future trends in sea level, precipitation patterns, temperature and moisture regimes				
Key Action (Description of work/project)	Performance Target(s) (Performance Metric/Action Key Action)	Participating Entity	Timeline (Completion Date: month & year)	Status
Establish guidance of the application of climate change scenarios, projections and model outputs for Chesapeake Bay Program assessments.	Review a methodology to evaluate applicability of international, national, regional and state climate scenarios, projections, forecasts and assessments and to develop process for establishing a recommended set of climate projections for use in Chesapeake Bay Program assessments.	DAC	Apr 14	Development of Climate Projections for Use in Chesapeake Bay Program Assessments
	Engage a group of sea level rise researchers and industry experts to reach agreement on sea level rise scenarios to apply climate modeling efforts. Use best practices evaluating effects of sea level rise on living resources and wetlands, and the range of sea level rise scenarios.	State Resiliency Workgroup	Apr 14	Recommendations on Incorporating Climate-Related Data Inputs and Assessments, Selection of Sea Level Rise Scenarios and Data Inputs Climate Models
	Review international, regional and state level (DC, MD, PA, VA, WV, NY, NJ, DC) climate change assessments.	DAC, State Resiliency Workgroup, PA, MD, DE, DC	Jan 17	No action to date
	Conduct a literature review and synthesis of latest scientific research on past and future climate change impacts on the Chesapeake Bay, as well done in the 2008 Scientific and Technical Advisory Committee report.	DAC, CSA	Jan 17	Development of Climate Projections for Use in Chesapeake Bay Program Assessments
Get a better understanding of past and future impact of ocean acidification on Chesapeake Bay waters.	Conduct latest scientific research on sea level and water level trends, precipitation and evapotranspiration, and temperature change on land and water.	DAC, CSA	Jan 17	Development of Climate Projections for Use in Chesapeake Bay Program Assessments
	Convene federal, state and regional experts along with academic partners to assess current knowledge surrounding ocean acidification trends within the Chesapeake Bay.	State Resiliency Workgroup, Fisheries OI, Maryland Dept. of Natural Resources	Jan 17	No action to date
Management Approach: Develop a research agenda to improve understanding of climate impacts on fish critical data or research gaps				
Key Action (Description of work/project)	Performance Target(s) (Performance Metric/Action Key Action)	Participating Entity	Timeline (Completion Date: month & year)	Status
Develop a research agenda to improve understanding of climate impacts on fish critical data or research gaps.	Conduct a survey review and analysis of 18 individual management strategies to total climate-related research needs.	State Resiliency Workgroup	Jan 17	Initial engagement with Workgroup through CSAP and DAC
	Conduct an assessment of research needs to support future policy dialog related to the integration of climate change considerations into the Water Quality Management Strategy.	State Resiliency Workgroup	Jan 16	Progress ongoing (being conducted as part of Midpoint Assessment process)
	Work with regional partners (e.g., AEC, Climate Resilience and Science Center), academic institutions and other stakeholders to coordinate water climate related science and research needs in the broader watershed basin as within a geographic area.	State Resiliency Workgroup, USFWS, NCEM, USFWS, USFWS NE Climate Hub, WPA, MDC, USGS	Jan 17	No specific action to date
Initiate targeted research to improve understanding of climate impacts on fish critical data or research gaps.				N/A
Compile available data, tools and resources that can be used to support Chesapeake Bay watershed vulnerability assessments.				Development of Climate Projections for Use in Chesapeake Bay Program Assessments, and 2) Climate Change Research and Monitoring in the Chesapeake Bay Watershed
Management Approach: Unleash public, stakeholder and local engagement				
Key Action (Description of work/project)	Performance Target(s) (Performance Metric/Action Key Action)	Participating Entity	Timeline (Completion Date: month & year)	Status
Increase availability and access to monitoring and assessment data.				N/A
Management Approach: Review progress and ensure implementation plan				
Key Action (Description of work/project)	Performance Target(s) (Performance Metric/Action Key Action)	Participating Entity	Timeline (Completion Date: month & year)	Status
Review progress toward the closing of gaps in baseline monitoring and gaps in assessment tools and scientific research.		State Resiliency Workgroup	Jan 17	No action to date

** Performance Target added after approval of CSAP Worksheet

Outcome: Adaptation

DRAFT STATUS
UPDATE – For
Discussion
Purposes only

Management Approach: Review and assess conventional, restoration and protection goals and objectives.				Complete
Key Action (Description of work/project)				On track, progress ongoing
Performance Target(s) (Performance target to achieve Key Action)				Some challenges or delay
Participating Entity (Priority) (Responsibility)				No action
Timeline (Completion date, month & year)				
Identify need and format for information to be gathered and a methodology for updating list and synthesis on a continual basis.	State Resilience Workgroup, State Signatories to provide information on plan updates and programmatic efforts	2016	Climate Change Research and Adaptation (CCRA) Dashboard Site Updated	
People and entities learn from past and ongoing adaptation planning and programmatic efforts within the Chesapeake Bay watershed.	State Resilience Workgroup	2016	Climate Change Research and Adaptation (CCRA) Dashboard Site Updated	
Management Approach: Review and assess conventional, restoration and protection goals and objectives.				
Key Action (Description of work/project)				Complete
Performance Target(s) (Performance target to achieve Key Action)				On track, progress ongoing
Participating Entity (Priority) (Responsibility)				On track, progress ongoing (Lead: Terry Tract)
Timeline (Completion date, month & year)				
Develop process to review or reconsider Watershed Agreement Management Strategies to accommodate anticipated climate-related changes or impacts.	State Resilience Workgroup, Watershed Working, Chesapeake Conservation Partnership	2017	Climate Smart Public Watershed Working (SW) and SWL Watershed/Work Desk (SWL) Updated	
Facilitate in-person workshop with Watershed and Protected Lands Work to complete Watershed process and review, modify, update and submit management actions for change to the Management Strategy, and to develop recommendations for protecting Watershed Management Strategy through the "Watershed Adaptation" process.	State Resilience Workgroup	2017	On track, progress ongoing (Lead: Terry Tract)	
Identify recommendations for refinement of plans and a proposed implementation process to engage one-on-one with EPA to develop a strategy, which includes and meets the necessary information to support the implementation process.				
Management Approach: Increase the institutional capacity of the Chesapeake Bay Program to prepare for and respond to climate change.				
Key Action (Description of work/project)				Complete
Performance Target(s) (Performance target to achieve Key Action)				On track, progress ongoing
Participating Entity (Priority) (Responsibility)				On track, progress ongoing (Lead: Terry Tract)
Timeline (Completion date, month & year)				
Increase opportunities for formal and informal communication and the exchange of ideas among the Chesapeake Bay watershed's "adaptation planning network."	Participate in the Maryland Sea Grant Climate Change Research Forums	2016	Maryland Sea Grant forums have not been scheduled due to staffing changes	
Work with partners to host a "Chesapeake Bay Climate Adaptation Workshop" or other adaptation-related training at regional regional forums and webinars.	State Resilience Workgroup	2017	Presentations at regional forums have been given but no action on holding a regional workshop	
Identify funding availability, needs and mechanisms.			N/A	
Identify and assess institutional barriers.			N/A	
Management Approach: Implement Resilient Adaptation Action				
Key Action (Description of work/project)				Complete
Performance Target(s) (Performance target to achieve Key Action)				On track, progress ongoing
Participating Entity (Priority) (Responsibility)				On track, progress ongoing
Timeline (Completion date, month & year)				
Identify additional on-the-ground projects proposed or planned by CE partners, to be implemented within the next two years and beyond.	State Resilience Workgroup	2017	No action	
Supportively assess planned on-the-ground restoration projects, proposed by CE partners, to include whether project design accommodates for climate change, and, where possible, develop metrics for and/or monitor a specific project performance over time.	State Resilience Workgroup	2017	No action	
Participate in the USACE Chesapeake Bay Pilot to develop "living" models of governance infrastructure for coastal community protection and regional resilience of coastal resources. Include alternative ADAP project financing approaches, share information across federal, state and local agencies, NGOs, academic institutions, and multiple business sectors in a regional forum.	CB Climate Resilience Workgroup	2017	Participation in several USACE Chesapeake Bay Pilot meetings but need to determine status of implementation of pilot efforts.	
Management Approach: Involve Local Public and Stakeholder Engagement & Conduct Regional Education and Outreach				
Key Action (Description of work/project)				Complete
Performance Target(s) (Performance target to achieve Key Action)				On track, progress ongoing
Participating Entity (Priority) (Responsibility)				On track, progress ongoing
Timeline (Completion date, month & year)				
Engage current efforts, including policy, best practices, and scientific understanding with interested parties.	Work with CBP Communications Working group to release a periodic newsletter to disseminate adaptation-related information.	2016	Chesapeake Resilience News-Released in Jan, March and August 2016	
Test and develop new communication tools that are audience specific, so that climate information is accessible and understandable across multiple audiences and communities.			N/A	
Develop information products that can be used to inform community and coastal resilience planning processes.			N/A	
Management Approach: Foster a larger discussion on the linkages between climate impacts and diversity				
Key Action (Description of work/project)				Complete
Performance Target(s) (Performance target to achieve Key Action)				On track, progress ongoing
Participating Entity (Priority) (Responsibility)				On track, progress ongoing
Timeline (Completion date, month & year)				
Work with the Diversity Action Team to identify and pursue opportunities to create a strong linkage between Climate Resilience and Diversity Management Strategy.	Climate Resilience Working group to work on the Diversity Action Team	2016	CBAC Influx Meeting, 2016/2017 on Diversity and Climate Change Issue	
Substantive regional efforts to engage diverse stakeholders.			N/A	
Management Approach: Assess adaptation action effectiveness and manage risk				
Key Action (Description of work/project)				Complete
Performance Target(s) (Performance target to achieve Key Action)				On track, progress ongoing
Participating Entity (Priority) (Responsibility)				On track, progress ongoing
Timeline (Completion date, month & year)				
Substantive research the full integration of climate resilience considerations into the Chesapeake Bay Program.	Develop a questionnaire or matrix to document programmatic baseline and monitor the status and progress towards incorporating climate threats into individual management strategies.	2017	Initial evaluation completed and presented to STAC and CB	
Integrate climate resilience indicators to assess adaptation action effectiveness and ecological response.	Partner with NCEM/DCS, USACE and US EPA to review other climate indicator frameworks (CBP Metrics, USACE and US EPA Climate Change Indicators (CCI)/www.epa.gov/climatechange/indicators/) to assess suitability for application to CBP coastal projects.	2017	CBP issued for Project Development of Climate Change Indicators for the CBP	
Track Department of Interior Metrics Expert Group (MEG) recommendations for measuring effects of ecological resilience projects to promote key business systems and core forms of gray infrastructure against effects of coastal storms and climate change effects (e.g., sea level rise, drought).	State Resilience Workgroup	2017	Presentation to CBAC on CB Metrics (MCI) provided by Peter Hershkov, but no additional follow-up. Review of these metrics was included in scope of work for indicators project	
Work with CBAC and STAC to recommend and establish performance metrics and/or indicators to assess Climate Resilience Goal and adaptive management effectiveness, based on ecological indicators.	CBAC, STAC	2017	CBP issued for Project Development of Climate Change Indicators for the CBP	

CRWG Workgroup DRAFT Priorities and Initial Meeting Theme Ideas –2017

1. Water Quality and the 2017 Mid Assessment – [BMP Siting and Design Guidelines?](#)
2. Monitoring Needs and Long Term Trend Assessments – [Tie in with Indicators project?](#)
3. Climate Data and Information Portals – [Watershed-wide/Coast-wide mapping layers?](#)
4. Communications, Outreach, Education and Capacity Building – [New ideas, new partners?](#)
5. Green Infrastructure and Coastal Resiliency – [How to inform regional priorities?](#)
6. Research Agenda, Capacity and Needs – [Regional Workshop?](#)
7. Ocean Acidification – [2017 STAC Workshop?](#)
8. Climate Change and Diversity – [2016 GIT funded project](#)
9. Climate Impact Vulnerability Assessments – [CBP Workgroup Training and Data Needs?](#)
10. Climate Change Indicators and Performance Metrics – [2016 GIT funded project](#)
11. **Deletions (Completed actions) or New additions ??**