Key Elements of Chesapeake Bay Watershed Agreement Management Strategies

Content (see Appendix for more guidance related to these elements)**:**

1. **Executive Summary.** Two to four page public-friendly summary that describes the content of the Management Strategy and highlights key strategies and benefits.

   > **Comment [BG1]:** Recommend the exec summary be no longer than 1 page in length and the strategies be as concise as possible.

2. **Outcomes and Baselines.** State the goal and outcome (or outcomes) from the Watershed Agreement that the management strategy is addressing. Add any necessary explanatory information that would make the statement sufficiently explicit, or well enough defined, that anyone reading it would have no doubt about what the aspiration is. Identify the baseline associated with the outcome, how that baseline was derived and the current condition. (This should build upon the outcome justification documents that were issued with the Final Agreement).

3. **Jurisdictions and agencies participating in the strategy**. Identify participating signatories and other stakeholders, including local governments and nonprofit organizations which will be participating in implementation of the strategy. Include a brief description of their role and level of participation. EPA will identify the lead federal agency for each outcome.

   a. **Local engagement.** Include a statement about whether there is a general or specific role for local governments, watershed associations, nonprofits, the private sector or others in achieving the outcome. When relevant, include a brief description of the role and level of participation of each entity.

4. **Factors influencing ability to meet goal**. Identify the key natural and human systems that could affect the ability to attain the desired outcome. Once identified, all factors should be rated for both their importance in affecting goal attainment and their ability to be managed. Consider adaptation to changing environmental and economic conditions, impact of land use changes, regulatory obstacles, lack of local champion or community /support, etc. Identify management actions that other goal teams or partners could take to mitigate or otherwise influence those factors (e.g. state or federal policy decisions that could counter or hinder progress toward the outcomes).

   > **Comment [BG2]:** Q: How will factors be rated?

4.5.

5. **Current efforts and gaps.** Identify efforts that are already being taken by jurisdictions, agencies and organizations and to determine if the ongoing management effort is sufficient to achieve the goal, or whether enhancement is necessary. Then, Iidentify the gaps that the partnership should fill to meet the outcome. Identify possible interactions with other management strategies/outcomes and any possible efficiencies that might be achievable to avoid duplication, close gaps, and maximize forward efforts. Include financial resources and financial gaps.

   > **Comment [BG3]:** Recommended edit; Also suggest including financial resources and financial gaps. "Also consider including contributions from private foundations not currently accounted in the progress. CAC is willing to explore ways in which they can help with this outreach via the Chesapeake Bay Funders Network."

     a. **Actions, tools or technical support needed to empower local government and others.** Identify specific actions, tools or technical support needed at the local level.

6. **Management Approach.** Outline the general approach needed to fill existing gaps and identify the partnership's role in that approach. These are the actions that the program will undertake to address the factors affecting goal and outcome attainment. The approach should include how the stakeholders will be kept informed and involved.

     a. **Local Engagement.** If relevant, describe what steps will be taken to facilitate greater local participation, including underserved and underrepresented communities as a way to include more diverse participation, in achieving the outcome, including what actions, tools or technical support will be provided to empower local governments and others to do their part.

7. **Monitoring Progress.** Describe how progress toward the outcome will be monitored and any resources needed to develop and/or implement the monitoring program. Include actions taken as well as the results of those activities. Evaluate for basic accountability: a. Verify we are doing what the Agreement specified. b. Verify the outcome is what was expected and desired.

8. **Assessing Progress.** Describe the approach for how, and how often, the progress will be assessed. Include actions taken as well as the results of the monitoring. Biennial updates should include a discussion on whether adequate progress is being made and the strategy or actions that will be taken if progress is not sufficient. Evaluation factors to consider: a). Completion of planned actions as scheduled;.and b). Outcome(s) progress sufficiency and timeliness.

9. **Adaptively Manage**. Describe how the assessment of progress will lead to changes in actions, when the outcome itself needs to be changed and under what conditions. Biennial reevaluations should identify if such changes will be needed for the next biennial cycle. Stakeholder input will be incorporated into the development and reevaluation of each of the strategies.

10. **Biennial Workplan.** Included a biennial workplan as part of the management strategy**.** The workplan will identify commitments, actions and resources that each jurisdiction, federal agency and partner will take to help achieve each of the outcomes they are supporting as well as biennial targets and outputs that are related to meeting the outcomes. Update annually, if needed, based on changes in resource availability and any significant programmatic adjustments.

Comment [BG4]: Adaptive management should be done based on assessment period rather than biennially. For example tree canopy is best assessed by 5 year satellite data. Making adaptive management changes prior to that could be counter-productive and lead to poor implementation.

Comment [BG5]: Recommends annual workplans that can be easily adapted and provide the basis for all subsequent targets and deadlines (i.e. accomplishments in year one would dictate targets for year two). Annual workplans would align with annual budgets making it easier to determine the feasibility of projects and assign resources. Annual workplans would also allow an easier integration of the Watershed Agreement and the Executive Order since EO reports are generated on an annual basis.

Comment [BG6]: The workplan should follow the same two-year schedule as jurisdictions' two-year milestones and the content of Management Strategy workplans should align with the content of jurisdictions' two-year milestones as much as possible.

Draft 7/21/14 (Based on 1/10/14 version)

Appendix A

Chesapeake Bay Decision Framework

Purpose: The decision framework is designed to address two issues: the need for transparency and accountability in the Bay program; and a need to effectively implement adaptive management. In both cases, developing and documenting a rationale for all activities that links them clearly and logically to the program's goals is essential. The decision framework is intended to facilitate the development and articulation of that logic by providing a structure for: identification of goals; reasoned development of strategies; purposeful design of monitoring; and planning for effective assessment of efficacy.

The decision framework is a tool for development of the essential logic that must underpin any successful environmental management program. Simply providing input for each step outlined in the framework will not guarantee a sound or well-reasoned logic. That can only arise from the conscientious efforts of those identifying and pursuing program goals. The framework is simply a structure for consistent presentation and effective coordination of all its activities.

What follows is a brief summary of the purpose of each of the seven steps in the framework and some guidance on the key characteristics of appropriate input.

1. **Executive Summary**

Purpose: The executive summary should provide an overview of the management strategy's essential information. It should be designed to be read alone without the accompanying report and briefly outline the key information and findings. It is usually written last so that it accurately reflects the final content of the strategy.

1.2. **Articulate program goals/outcomes**

Purpose: Without an explicit, unambiguous goal/outcome it is impossible to know precisely what is being sought and therefore whether any of the planned activities are justified.

Key characteristics: The statement should identify a measurable outcome. Preferably it should be realistic and attainable within a practical time period. But there is no reason it cannot be aspirational. The key is that it must be explicit. Terms like "healthy" or "sustainable" or "natural" are open to endless debate, and therefore not particularly useful in goal statements. If they are used, it is essential that there be an accompanying statement that defines them in terms of measurable parameters. For example, "clean" waters might be defined as those meeting all water quality standards, "natural" conditions might be defined as specific parameters matching those in a particular reference site.

The statement should be sufficiently explicit, or well enough defined, that anyone reading it would have no doubt about what the aspiration is.

3. Jurisdictions and agencies participating in the strategy

 Purpose: This section includes a brief description of the jurisdictions and agencies' role and level of participation.

2.4. Describe factors influencing goal and outcome attainment

Purpose: In order to know what must be done to attain the specified goal or outcome, it is necessary to know how the ecosystem operates, and therefore, what has to be managed. Ideally, a well-developed ecosystem model would always be available to answer these questions. This is almost never the case, and ultimately a sophisticated model or even a really well-informed understanding of the system is not essential before management efforts can begin. It is entirely possible to learn while doing, and that is exactly what most environmental management programs must do. The key to constant improvement, however, is to be explicit about the beginning understanding. When the starting point is identified, monitoring can identify consistent or inconsistent behavior and thus inform subsequent adjustments of the understanding.

The initial understanding is also what justifies the initial management actions. Accountability demands openness about the certainty of management action efficacy. It is acceptable to take actions in the face of significant uncertainty, as long as there is reasonable assurance that the action was considered in light of all that is known about the system.

Key Characteristics: The decision framework suggests a starting point for this assessment that is relatively unsophisticated, and not terribly time consuming. The idea is that qualitative and conceptual understandings are sufficient to start a process that should be iterated frequently and hopefully with increasing sophistication as understandings increase. In the first iteration, it is most important to identify factors in both the natural and human systems that could affect the ability to attain the desired outcome. The objective is to be as complete as reasonably possible. The framework suggests facilitating this identification by considering factors that might fall under the broad categories of biological, chemical, physical, geological, and human factors. Sub-categories are also suggested in an effort to promote comprehensive consideration. Input from CBP advisory committees should be requested to ensure completeness.

Identification of factors is a process that can easily wander into levels of sophistication that rapidly exceed the utility of an initial assessment. In the first iteration "lumping" is preferable to "splitting" in factor identification.

Once identified, all factors should be rated for both their importance in affecting goal attainment, and the ability to be managed. This is a simple articulation of the rationale for any management strategy. Program accountability would expect that all important factors would be managed if the goal was to be attained. This can also be a test of goal practicality. If there are factors critical to goal attainment that are also difficult or impossible to manage, the practicality of the goal may be suspect.

3.5. Assess current management efforts —and identify gaps

Purpose: Once critical factors influencing goal attainment are identified, the next step is to identify and assess ongoing management efforts. For factors currently under some management, the efficacy of the management with respect to the goal should be assessed. The objective is to determine if the ongoing management effort is sufficient to achieve the goal, or whether enhancement is necessary. Factors that are not being managed will require development of a new strategy.

Key Characteristics: In the initial iteration of this assessment, there is no need and perhaps no basis for a detailed evaluation of existing management efforts. The first objective is to identify needs for new management efforts and opportunities for coordination of existing efforts. In time, monitoring will develop the basis for more rigorous evaluation, and a more robust rationale for any revisions necessary.

4.6.Develop management strategy

Purpose: Management strategies are the actions that the program will undertake to address the factors affecting goal and outcome attainment. In many programs, strategy development is accomplished through some form of logic modeling or results chain development. There are many versions of this practice, and there are a variety of tools to facilitate the undertaking. None of them are explicitly called for in the decision framework, in the expectation that it is possible to develop well-reasoned strategies without those methods.

Key Characteristics: Strategies should all be directly tied to the critical factors. Anything not linked to a critical factor has little reason to be part of the program, in so far as it is thus not addressing a program goal or outcome.

Strategies should be described in terms that make them measurable. There are two things that should be considered in this context: .

- The Ffirst is a description of the management action called for by the strategy. What exactly is going to be undertaken? Evaluators refer to this as the "intervention."
- SThe second thing is the desired outcome. What should happen as a result of the intervention? Both the intervention and the outcome should be observable and measurable.

It is useful to consider the time over which interventions should produce observable outcomes. This information is critical to the design of the monitoring program.

5.7. Develop monitoring program

Purpose: Monitoring is necessary to answer two basic accountability questions: Are we doing what we said we would do? Is the outcome what is expected and desired? This should include

how the progress toward the outcome will be monitored and any resources needed to implement the monitoring program.

Key Characteristics: There should be a direct link between the monitoring program and the strategy, which should be clearly tied to the goal and outcome statements. In this way the rationale for the monitoring should be very clear. As noted above the monitoring should have two specific purposes: 1) to document that the strategy is being implemented as planned; and 2) to determine if the system is responding as expected. The parameters or indicators monitored should be clearly identified and the frequency of monitoring should be based on what will be necessary to document status and trends in the context of any system variability.

In some strategies it may be necessary to propose a third type of monitoring metric. The logic of the decision framework is based on clear identification of the underlying understanding about the ecosystem. In some cases this will be little more than a hypothesis. In these cases the assumptions about system processes should be explicit, but identified as assumptions. It can be important for adaptive management to include monitoring to assess the accuracy of these assumptions. It is possible that monitoring of an intervention and an outcome will not be sufficient to assess underlying assumptions and this will impede efforts to enhance management efficacy. At this point, the goal team will need to re-evaluate and re-group its suggested strategy.

6.8. Assess performance

Purpose: The strategy should have an approach for how, and how often, the progress will be assessed and should include actions taken as well as the results of the monitoring. For both accountability and adaptive management it is essential to evaluate the performance of the management effort. Two assessments are needed: .

- –For accountability the question is whether the management intervention was effectively delivered. This is typically a very simple and straightforward assessment. Did we do what we said we needed to do when we said we needed to do it?
- For adaptive management it is important to know if the system responded as expected. Did the outcomes appear at the level and at the pace expected?

Key characteristics: The assessment of performance should occur in two phases: before the management even begins, and then intermittently after commencement. The initial assessment is really an expression of the understanding of how the system operates and the certainty surrounding that understanding. The way this is identified is by specifying what the monitoring program is expected to show over time. When the strategy is developed and the monitoring parameters are identified, program managers should clearly identify the trajectory of monitored values they anticipate. This reflects their current understanding of how the system behaves and when they expect to attain the goal.

Program managers should also provide a clear identification of the variation around the expected system trajectory they believe would be consistent with the system behavior matching their

expectations. This envelop of reasonable uncertainty reflects their confidence in the initial understanding of system behavior.   It must be explicit over the time period to anticipated goal attainment, because it also establishes the criteria for performance assessment at interim points.

If the consensus expected system response to an intervention is +15% in two years, and the confidence in that expectation is that it will actually be somewhere between +5% and +30%, then the thresholds for deciding the intervention is working as expected are effectively established. For adaptive management, this is setting the decision criteria for "staying the course" or revising the strategy.

7.9. **Manage adaptively**

Purpose: This step is about how the assessment of progress will lead to changes in actions or interventions and when the outcome itself needs to be changed and under what conditions. In order to constantly improve the effectiveness of the management program, there must be a process for continually reducing the uncertainty in management strategies. The decision framework attempts to enable this by promoting explicit identification of the understanding that drives management efforts, and detailed prediction of expected system behavior based on that understanding. Well-designed monitoring then enables constant assessment of the accuracy of that understanding and informs revision of the understanding to increase the certainty of the actions in the next iteration. The CBP Management Board will oversee management strategy implementation with annual reviews to ensure that actions are being implemented and are staying on track.

10. Biennial Workplan

Purpose: This section contains commitments, actions and resources that each of the jurisdictions, federal agencies and partners is providing to help achieve each of the outcomes they are supporting as well as biennial {targets and} outputs that are related to meeting the outcomes.