

# Draft WWTWG Decision Framework

April 3, 2012

# Purpose of Decision Framework

- Each Goal Team and workgroup was tasked by Management Board and Principals Staff Committee with developing a decision framework (DF) document
  - represent the work being done by the group, and to help identify needs the group may have
- This is a first cut at this document, intended to start the conversation within the WWTWG.
- This document should be considered within, and will eventually be linked to, the broader WQGIT DF.

# Articulate Program Goals

- ***Purpose:** Without an explicit, unambiguous goal it is impossible to know precisely what is being sought and therefore whether any of the planned activities are justified. The goal statement should identify a measurable outcome for the Wastewater Workgroup. 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 sufficiently explicit, or well enough defined, that anyone reading it would have no doubt about what the aspiration is.*

# Wastewater Workgroup Goal

The goal of the Wastewater Treatment Workgroup is to **analyze data and information and make recommendations** that support Chesapeake Bay Program efforts to achieve reductions in nitrogen, phosphorus, and sediment loads from wastewater sources to achieve the TMDL allocations by 2025.

Wastewater sources include significant and non-significant wastewater treatment facilities, CSO and onsite wastewater treatment systems. The WLA goals for significant wastewater treatment facilities are outlined in table 9.4 of the Chesapeake Bay TMDL. The WLAs of remaining sources are listed as aggregate WLA or Load Allocation (LA) in Appendix Q of the TMDL.

# Describe Factors Influencing Goal Attainment

- ***Purpose:** In order to know what must be done to attain the specified goal, it is necessary to know how the ecosystem operates, and therefore, what has to be managed. 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.*

# Factors Influencing Goal Attainment

1. Availability and quality of data
2. Availability and quality of information
3. Capacity to analyze and report
4. Expertise and protocol for recommendation development

# Assess Current Management Efforts- Identify Gaps and Prioritize

- ***Purpose:** Once critical factors influencing goal attainment are identified, the next step is to identify and assess ongoing WWTWG 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. 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*

# Current efforts and gaps

1. Availability and quality of data
  1. Data inventory and needs
2. Availability and quality of information
  1. Information availability and needs
3. Capacity to analyze and report
  1. Staff/volunteer/contract capacity
4. Expertise and protocol for recommendation development
  1. Workgroup members/staff/other expertise

# Develop Management Strategies- Actions and Proposed Outcomes

- ***Purpose:** Management strategies are the actions that the program will undertake to address the factors affecting goal attainment. 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. Strategies should be described in terms that make them measurable. There are two things that should be considered in this context. The first is description of the management action called for by the strategy. What exactly is going to be undertaken? Evaluators refer to this as the “intervention.” The 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.*

# Develop Management Strategies

1. Availability and quality of data
  1. Work with Bay jurisdictions to **continue improving wastewater data quality**
2. Availability and quality of information
  1. **Review findings** of workshops and expert panels
  2. **Gather information** through workshops
3. Capacity to analyze and report
  1. Convene regularly for **exchange technical and policy information**
4. Expertise and protocol for recommendation development
  1. **Convene expert panels** to investigate new data and modeling information

# Management Strategies

1. Work with Bay jurisdictions to **continue improving wastewater data quality** with focus on non-significant facility load and onsite wastewater treatment systems (e.g., locations) through workshops, expert panels, regular workgroup meetings, and assistance from contractors.
2. **Review findings** of workshops and expert panels for new modeling tools for onsite treatment BMP implementation assessment and future model calibrations for the 2017 interim goal.
3. **Gather information** of latest advances in innovative and cost effective wastewater treatment technology through workshops to support the implementation in wastewater sources.
4. Convene regularly for **exchange technical and policy information** exchange to support partner TMDL implementation efforts related to wastewater.
5. **Convene expert panels** to investigate new data and modeling information (e.g., review soil attenuation rates for onsite wastewater treatment systems in Sept. – Nov. 2012).
6. Other Strategies- open to workgroup input and discussion

ARE WORKGROUP PRIORITIES BEING ADDRESSED?

# Development Monitoring Program- Track Implementation of Workgroup's Strategies

- ***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? There should be a direct link between the monitoring program and the strategy, which should be clearly tied to the goal. In this way, the rationale for the monitoring should be very clear. The monitoring should have two specific purposes: to document that the strategy is being implemented as planned; and 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.*

# Develop Monitoring Program

1. Availability and quality of data
  1. Data inventory and assessment
  2. Identified unmet data needs
2. Availability and quality of information
  1. Information inventory and assessment
  2. Workshops planned and held
3. Capacity to analyze and report
  1. Information exchanges planned and held
  2. Awareness of information across stakeholders
4. Expertise and protocol for recommendation development
  1. Expert panels planned and held
  2. Reports and recommendations generated

# Assess Performance

- **Purpose:** *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? 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.*

# Assess Performance

Assess strategies, action items, gaps, and develop recommendations to revise Workgroup's annual work plan to address stated goals/priorities.

1. Availability and quality of data
  1. ?% of data needs met within 2 yrs
  2. ?% of data deemed high quality in 3 yrs
2. Availability and quality of information
  1. Information inventory completed in ? yr
  2. 2 workshops planned and held in ? yrs
3. Capacity to analyze and report
  1. 2 information exchanges held every year
  2. Survey of stakeholders shows 75% awareness in 2 yrs
4. Expertise and protocol for recommendation development
  1. 2 expert panels planned and held in 3 yrs
  2. Panel reports disseminated within 3 months

# Manage Adaptively

- **Purpose:** *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 reduce the uncertainty in the next iteration.*

# Manage Adaptively

Utilize assessment results to determine needs for:

- Revised data and information collection strategies
- Increased or decreased workshops
- Increased or decreased info exchanges
- Increased or decreased expert panels

# Suggested Next Steps

- Identify a small group willing to consolidate comments on Version 1 and refine as Version 2.
- Schedule webinar(s) to review Version 2.
- Present Version 2 for approval at May meeting.