

Maintain Healthy Watersheds Draft Decision Framework

1/4/12

1. ARTICULATE PROGRAM GOAL:

Maintain local watershed health across a range of landscape contexts.

With this goal, GIT 4 intends to bring attention to the challenge of protecting streams and watersheds that are healthy today. This initiative complements the "dirty waters" approach which focuses on restoring waters to health after they have been allowed to be degraded.

Healthy watersheds sustain local social, economic, and environmental benefits at optimal levels and contribute to achievement of CBP goals for the tidal Chesapeake Bay and tributaries. The optimal levels at which such benefits are sustainable will depend upon the landscape context of the watershed.

For example, within rural landscapes healthy watersheds typically have high percentages of forest cover and low percentages of impervious surface area, high connectivity between terrestrial and aquatic habitats, natural flow regimes, and stable stream channels. Watersheds in urban landscapes may lack some of these attributes; but even in urbanized landscapes, significant social, economic, and environmental benefits can be sustained through land use planning and implementation of practices that protect watershed functions.

2. DESCRIBE FACTORS INFLUENCING GOAL ATTAINMENT(SYSTEM-LEVEL MODEL):

Landscape condition

Current Efforts: There are a number of watershed-wide characterizations of landscape condition that can be made available for use in healthy watershed protection planning and accountability. Among them are the forest, impervious area and protected lands data layers that are illustrated above under "Factors Influencing Goals."

Gaps: Generally, there is a lack of information concerning trends in landscape condition. Some of the available watershed-wide data layers that characterize landscape condition are out of date.

Managers need science-based guidance on landscape-scale conditions (e.g., minimum percent forest cover, maximum percent effective impervious area) that are necessary to assure healthy watershed protection.

Strategy: In order to support the efforts outlined below, GIT4 will collaborate with the CBP STAR group to identify and pursue development of priority data layers that provide contemporary characterizations of landscape condition and trends.

Support local government planning that provides for the protection of currently healthy streams and watersheds

In 2011, conduct research and issue calls across the CBP community to find examples of local land use planning that includes the identification and protection of currently healthy watersheds.

Develop communications messages to promote healthy stream and watershed protection

Develop a white paper on the local economic benefits of healthy watershed protection (in progress in 2011).

Local government planning

Current Efforts: With respect to water resources, local government planning efforts in the Chesapeake Bay watershed today are preoccupied with the exigencies of the Bay TMDL and their respective State Watershed Implementation Plans.

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Gaps: Generally, the identification and protection of healthy watersheds has not received enough attention in public discourse to make it a planning and resource allocation priority at the local level. Efforts are needed to raise awareness and understanding of the issue.

Localities need a better understanding of the economic justification of healthy watershed protection.

Localities need models of successful healthy watershed protection strategies that are relevant to their local planning and implementation context.

Land Conservation

Current Efforts: There is a wide variety of government and non-government land conservation efforts including current state commitments to increase lands under permanent protection, land conservancies, and the EO13508 strategy commitment to protect an additional two million acres in the Chesapeake Bay Watershed.

Gaps: Generally, existing land conservation programs are not targeted for the particular purpose of protecting currently healthy streams and watersheds.

Land use practices

Current Efforts: There are many existing resources that describe land use practices that can contribute to healthy stream and watershed protection. They are widely available through the internet at web sites of government agencies and non-government organizations at all levels.

Gaps: Evaluation of gaps relevant to the communication, promotion and implementation of private-sector land use practices may be a topic that GIT4 will pursue at a later date.

Government program implementation

Current Efforts: Antidegradation: State water quality standards include an anti-degradation policy and implementation method. The water quality standards regulation requires States to establish a three-tiered anti-degradation program.

Gaps: Current monitoring programs do not provide adequately for tracking and reporting the efficacy of the jurisdictions' anti-degradation policies.

Presently, there is no clear linkage between actions that could be taken to protect currently healthy watersheds (e.g., forest preservation) and the tracking and accountability system through which management actions will be credited for purposes of the Bay TMDL.

In 2012 and beyond:

Use best available communications methods to promote the best examples to local governments and other local entities.

Communicate the importance of healthy watershed maintenance to key stakeholders and decision makers.

Identify and communicate tools and approaches that have proven successful in healthy watershed protection at the local level.

Develop an on-line workspace to develop and pilot communications tools that support the GIT4 mission.

Influence government program implementation to support healthy stream and watershed protection.

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In 2011, propose and collaborate with the CBP STAC on a workshop to explore and define the linkage between healthy watershed protection and the Bay TMDL.

In 2012 and beyond, collaborate with CBP GIT5 and other entities that are involved in land conservation targeting and implementation to influence land conservation program implementation in support of healthy watershed protection.

Develop and support methods and tools to track and report watershed health.

In 2011, publish in the Bay Barometer report the currently available watershed-wide data on the Benthic Index of Biotic Integrity (BIBI) as our current metric of stream and watershed health.

Compile and distribute information from state anti-degradation programs (states presented anti-degradation program summaries at the March 4, 2011 GIT meeting).

Develop a pilot fish community indicator of watershed health, based on existing fish survey data, and in partnership with the Habitats Goal Team and STAR's Non-tidal Monitoring Work Group.

5. DEVELOP MONITORING PROGRAM

- Stream Health (Benthic IBI by segment or monitoring station): An effective way to measure the health of freshwater streams and rivers is to study the many tiny animals that live in these waters, called “benthic macro-invertebrates”. The abundance and diversity of snails, mussels, insects and other bottom-dwelling organisms are good indicators of the health of streams because these animals can’t move very far and they respond to pollution and other environmental stressors. Benthic macroinvertebrates are generally harmed by direct and indirect effects of pollutants such as metals, acidity, sediment, pesticides, nitrogen and phosphorus. These pollutants come from sources such as mining, agriculture, urban and suburban runoff, automobile and power plant exhaust, and wastewater treatment facilities.
- Tracking Project

6. ASSESS PERFORMANCE

- Tracking project
- Communications
- STAC Report

7. MANAGE ADAPTIVELY