STAR Meeting

Healthy Watershed & Stewardship GIT Land-Based Outcome Science Needs

8/20/2015

Chesapeake Bay Program
Science. Restoration. Partnership.

Action Items from June STAR Meeting

Forestry:

- Work on methods for analysis of high-resolution imagery (GIS Team & Land Use Workgroup)
- Ramp up forest buffer planting
- Assess new techniques to get improved implementation of buffers (Sally, Carl H., STAR)

Toxics:

- Prioritization process for next toxics to look at (discussion with STAC/STAR, Scott, Greg)
- How to report continued understanding? How to report this? (discussion with STAC/STAR, Scott)

Action Items from June STAR Meeting

SAV:

- Continued funding needed for aerial surveys, still a shortfall for annual surveys (STAR Amigos, Greg, Rich, Bob Orth, chairs of SAV workgroup)

Water Quality:

- Are we providing the needs of the WQGIT, using monitoring data and trend analysis, for the Mid-Point Assessment (MPA)? (Jeni & Lucinda discussion)
- Need to better define the lag time between implementing practices and relationship with water-quality and SAV response.
- Incorporating sea level rise into model (Gary, Mark)

Action Items from July STAR Meeting

Oyster:

- Document what citizen groups and state, federal, and academic partners collect water quality information for in Harris Creek (Mindy and citizen monitoring)

Blue Crab:

- Main need: Funding for the stock assessment survey

Forage Fish:

- Main needs: Increased shallow water monitoring and benthic grabs, phytoplankton and zooplankton monitoring

Outcomes to Discuss

Protected Lands Outcome

Healthy Watersheds Outcome

Land Use Methods and Metrics Development Outcome

Land Use Options Evaluation Outcome

Purpose of Meetings

- Work with Goal Teams to discuss science activities needed to carry out Management Strategies and Work Plans
    - Modeling and decision tools
    - Monitoring/indicators
    - Analysis and reporting
- Discuss current resources (CBPO or other partners) available to address science needs (and be reflected in work plans)
    - Identify responsible science providers
- Determine remaining science gaps
    - Suggest potential new partners/efforts
- STAC & STAR are working together to help Goal Team, each with different responsibilities

Protected Lands

Protect an additional 2 million acres, including 225,000 acres of wetlands and 695,000 acres of forest.

Current Indicators:
Acreage of protected lands

Potential New Indicators:
Protected lands with a division of wetlands and forests

Baseline: 7.8 million acres (2010)

Monitoring: State provided GIS files, Protected Areas Database, National Conservation Easement Database (acres calculated by CBP staff).

Needs: Smaller jurisdictional reporting (minor), breakdown of forests and wetlands
- Wetlands based on Phase 6 land using National Wetlands Imagery and improved/refined as new data becomes available
- Forest based on Phase 6 and improved with high resolution imagery

Healthy Watersheds

100 % of state-identified currently healthy waters and watersheds remain healthy

Current Indicators: None listed on indicators page, maps of state-identified healthy watersheds (update completed 2015)

Potential Indicators: Percentage of healthy waters and watersheds that remain healthy through time

Monitoring Plan: State definitions of healthy watersheds and their list/files of those existing, GIS data layers for determining watershed status

Science Needs:
- Indicator/metrics to report besides GIS dataset of healthy waters and watersheds
- Analyses plans/protocol for determining status of each watershed in succeeding years (is the watershed threatened?)
- Determine a way to track "marginally" healthy waters and watersheds (shared data gap with steam health workgroup)
- Address shifting baseline issue (states reassess and the "healthy watersheds" are changing annually)
- What metrics should be evaluated to determine health and threats?
- Formation of a tracking workgroup (STAR) – should include other GITs that have tracking needs

Land Use Methods and Metrics Development

Develop watershed-wide methodology for..
- Characterizing the rate of land conversion
- Measuring change distinctly in impervious surfaces, wetlands, forests, and farmland
- Quantifying potential impacts of land conversion on water quality, healthy watersheds, and communities.

Current Indicator:

None

Progress in developing the methods and metrics will be assessed quarterly by the Land Use Workgroup and will be based on the feasibility and accuracy of the derived metrics and impact measures. Following development and approval of the metrics, they will be reassessed every 3-5 years corresponding to the receipt of updated land cover information.

Methods: Classify land cover from high-resolution imagery every 3-5 years and assess. This will require some GIS spatial analysis to distinguish forests from tree canopy, farmland from turf grass, and to identify change within or surrounding National Wetland Inventory polygons.

Needs: Evaluation of methods to detect land cover change with high-resolution imagery. Land cover based metrics for assessing water quality (e.g., Phase 6 watershed model), healthy watersheds (e.g., % forest cover, % impervious cover, % riparian forest?), and impacts to communities (e.g., sprawl development, access to open space?)

Land Use Options

- Evaluate policy options, incentives, and planning tools (to improve the) capacity to reduce the rate of conversion

Current Indicator:
None

Monitoring: *The local level metrics for characterizing land conversion rates developed through the Land Use Methods and Metrics Development Outcome, along with other tools and information, will be used to direct our efforts and to assess progress towards the goal for "supporting local governments' and others' efforts in reducing these rates by 2025 and beyond."*

Needs:
- Conduct a professional survey to i.d. policy options and tools effective at reducing the rate of conversion
- Conduct a review/study to determine the range of policy options and tools currently being implemented
- Create an online repository of such examples to serve as a user friendly knowledge base (STAR could help evaluate what is the best platform to create such a database)