Integrated Approach for Communicating and Assessing Progress toward the Chesapeake Water-Quality Standards

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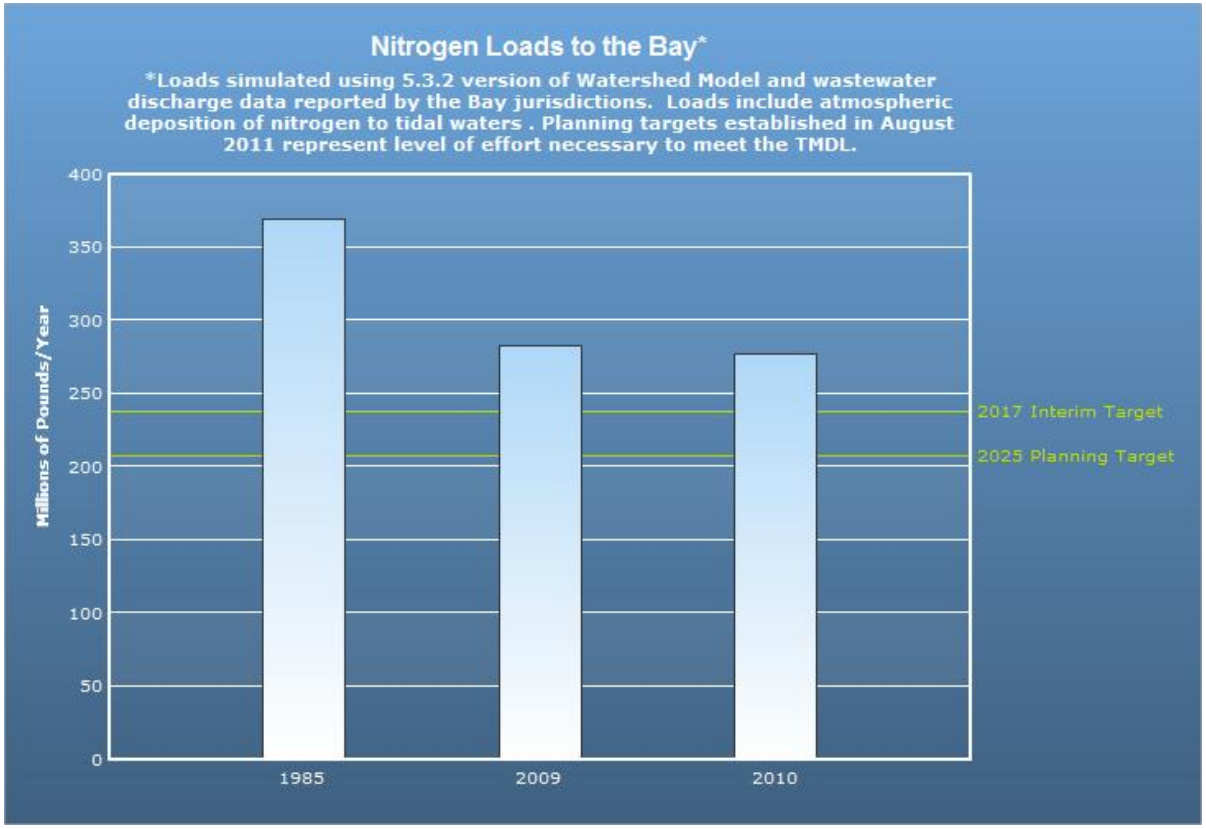
Telling the water-quality story

- How are practices being implemented for the TMDL improving water quality?
- Three pieces of information:
  - Practices implemented (TMDL)
  - Nutrients/sediment in watershed
  - Attainment of standards
- WQ GIT-STAR interactions
  - Improve communication
  - Coordinate reporting
- Current efforts and improvements

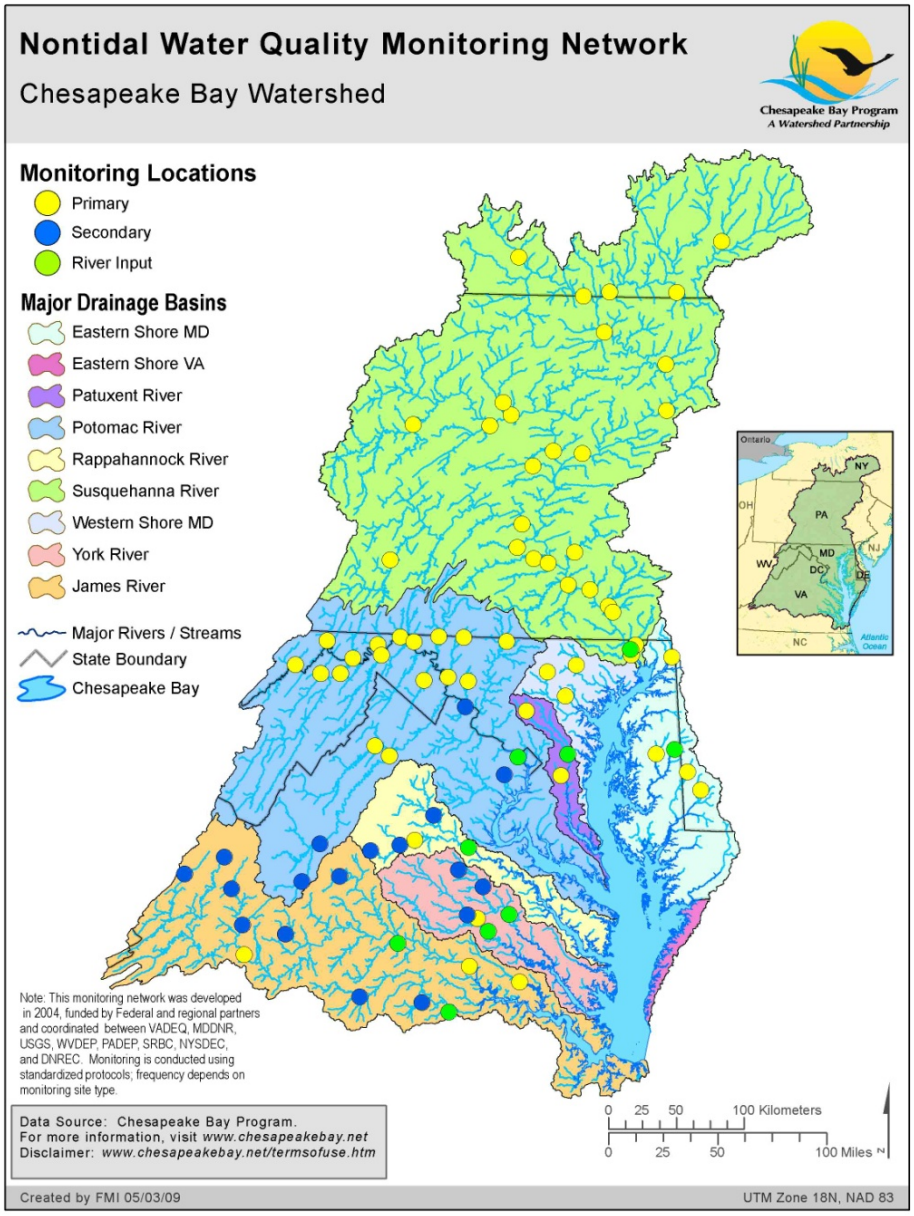
TMDL-Reporting of BMPs

- BMPs implemented
- Projected load reductions (progress runs)
- Annual reporting and 2-year milestones
- Improved BMP reporting and verification



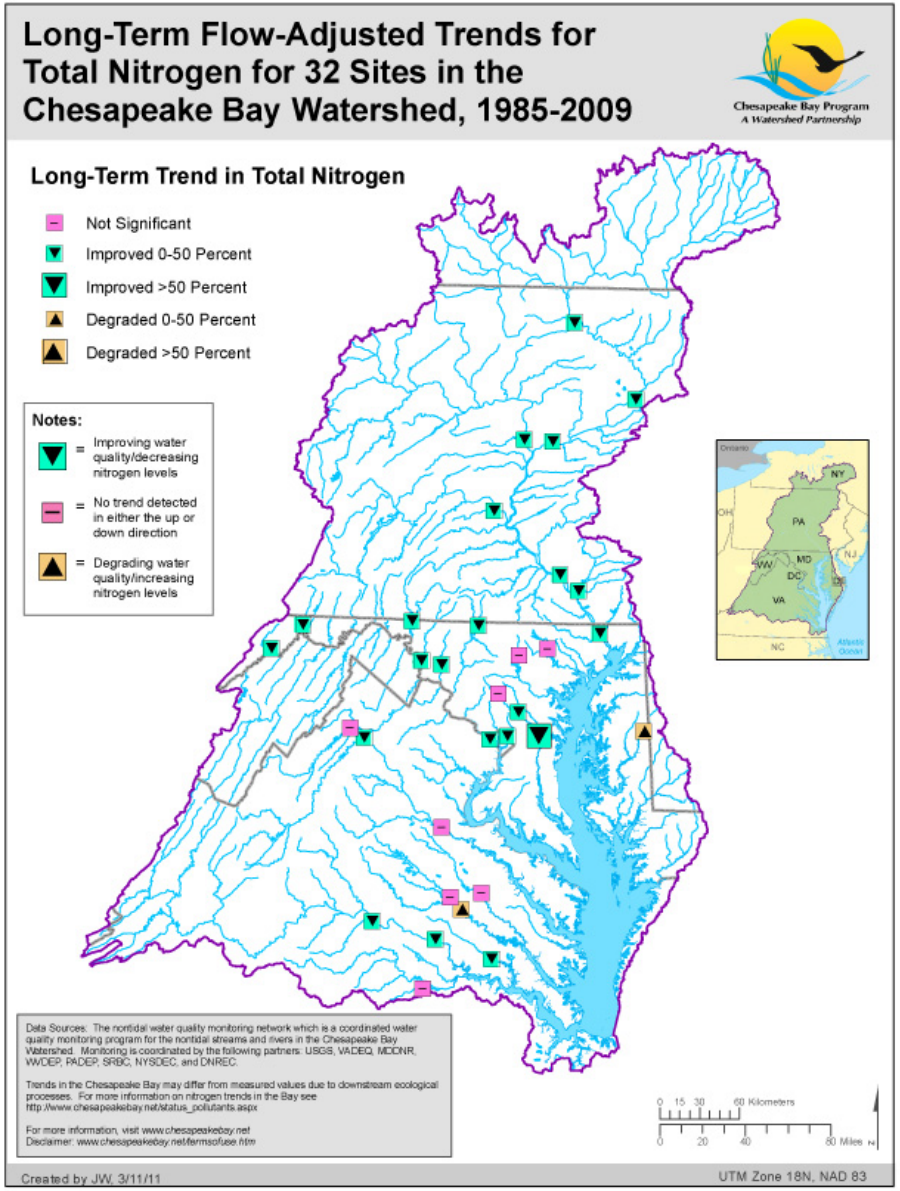
CBP Nontidal Monitoring

- Nutrients and sediment
- Network
  - Long-term sites
  - Adding stations
- Trends
  - Long term and 10 year
- Loads
  - To the Bay
  - Yields in watershed

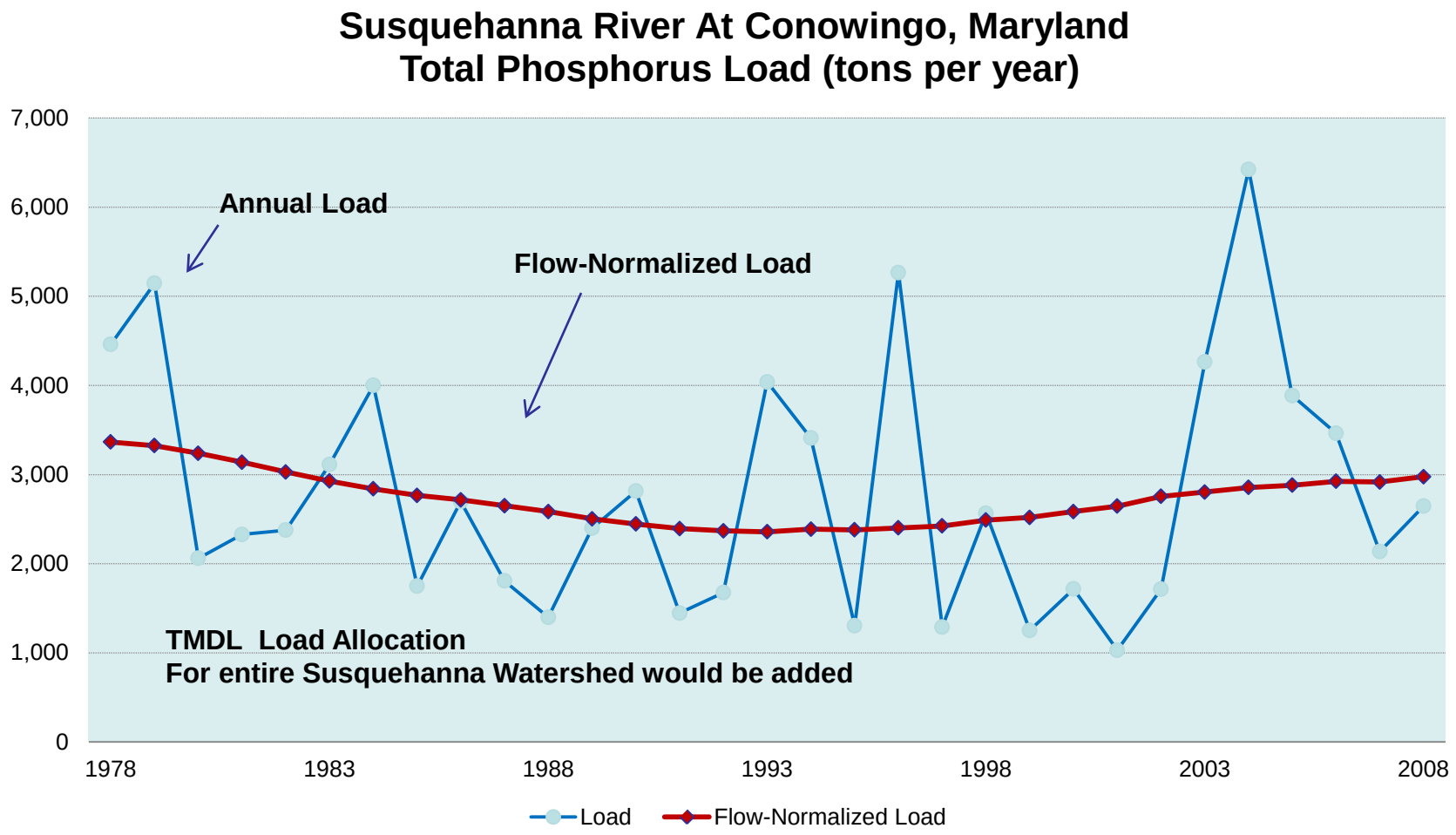


Trends: Nutrients and Sediment

- Trends
  - 1980's-2010
  - 2000-2010
  - Flow adjusted concentrations
- Nitrogen
  - LT: 2/3 of sites improving trends
  - 10 year: fewer than half improving trends
- Phosphorus
  - LT: 70 percent improving
  - 10 year: 1/3 improving,
- Sediment
  - LT 30 percent of sites improving
  - 10 year: 3 sites improving, 9 degrading
- Working on new approach to compare to loads to allocations

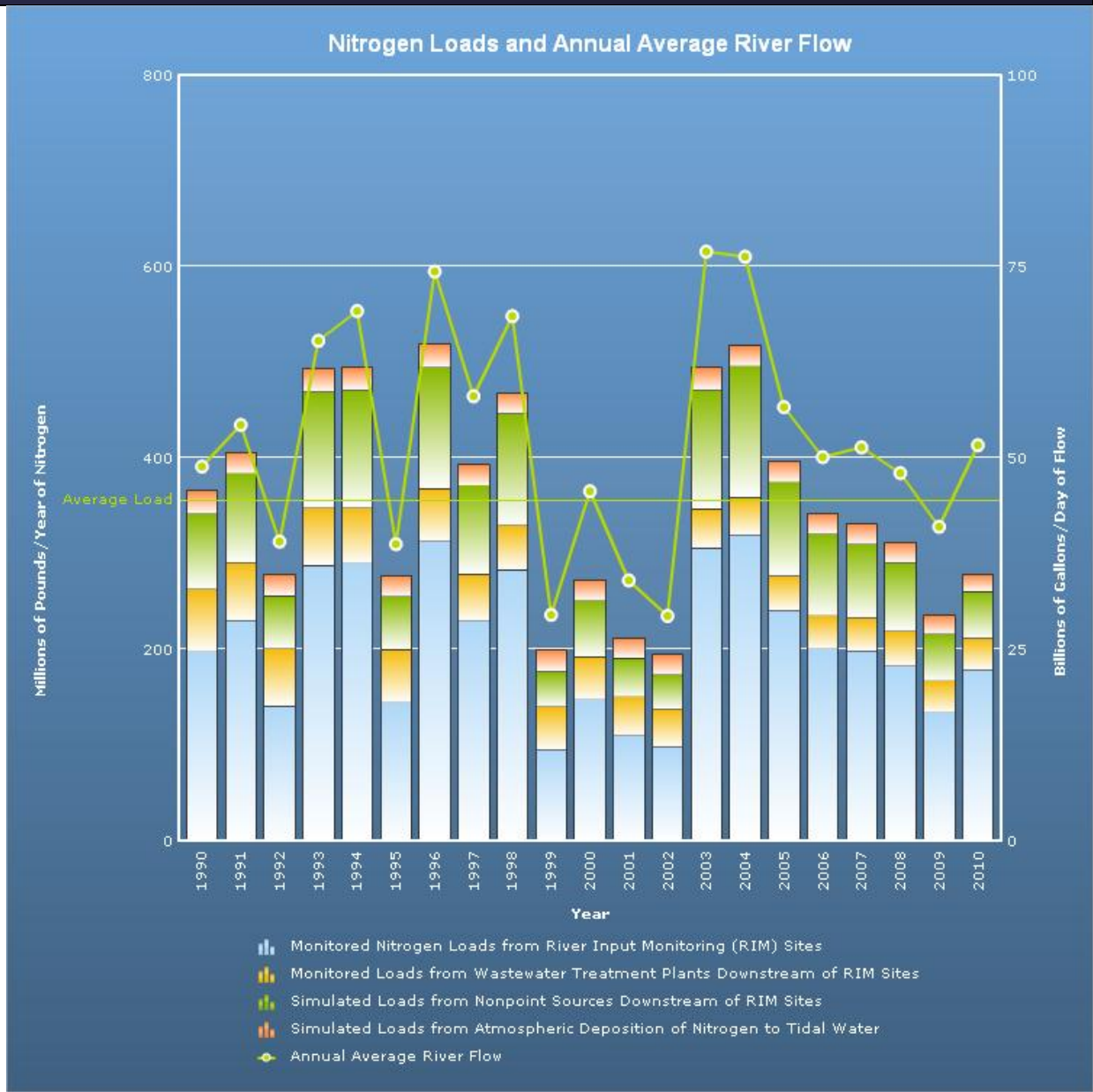


New Technique: Change in Load and Progress Towards Allocations

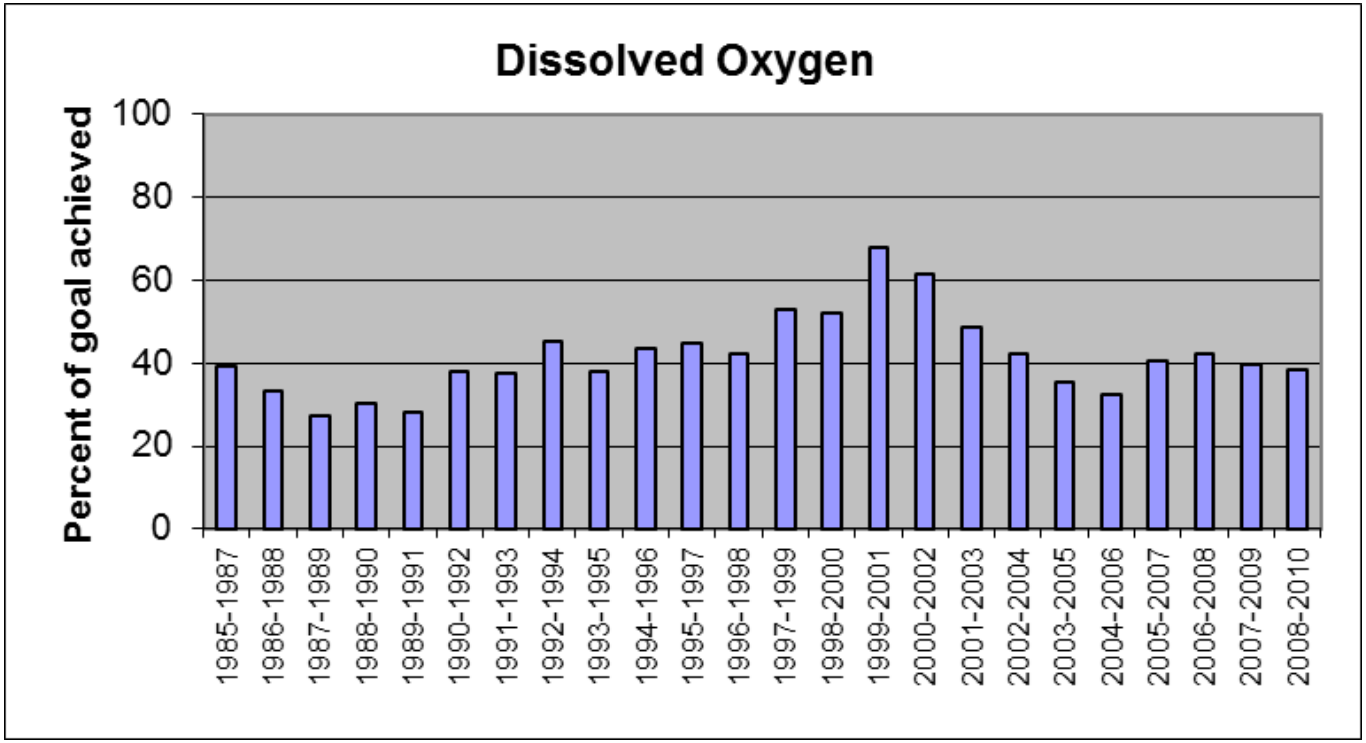


Loads to the Bay

- Annual changes in nutrient and sediment
- Needed to explain tidal water quality
- 2011 will be near record
- Relation to TMDL



Water quality in the Bay



- DO, clarity, chl-a in relation to standards (2008-2010)
- DO: 38%, Clarity: 18%, Chl-a: 22%
- Enhanced assessments

Communicating the Story

- What can be provided in 2012?
  - Progress toward milestones
  - Nutrient and sediment trends
  - Attainment of water-quality standards
  - Planned improvements for accountability

- Reporting opportunities in the future:
  - Annual updates
  - 2-yr milestones
  - 2017 evaluation
  - 2025 attainment of TMDL

Planned Improvements

- Improvements in 2012-2013 for integrated reporting:
  - Decision framework (WQGIT)
  - “Lessons learned” report (STAR)
  - “Lag times” (STAC)
  - Monitoring/allocations (USGS/EPA/CBP)
  - Summary reports to help with 2017 TMDL evaluation
    - USGS/STAR: Eastern Shore (2013), Potomac (2015)

Discussion with MB

- Do you have any concerns/recommendations for communicating results from a more integrated approach to assess progress toward water-quality standards and relation to TMDL?
  - Progress in BMP implementation
  - Nutrient and sediment trends
  - Attainment of standards
  - Enhanced accountability
- What other pieces of information would you like considered?
- What could be considered for EC meeting?