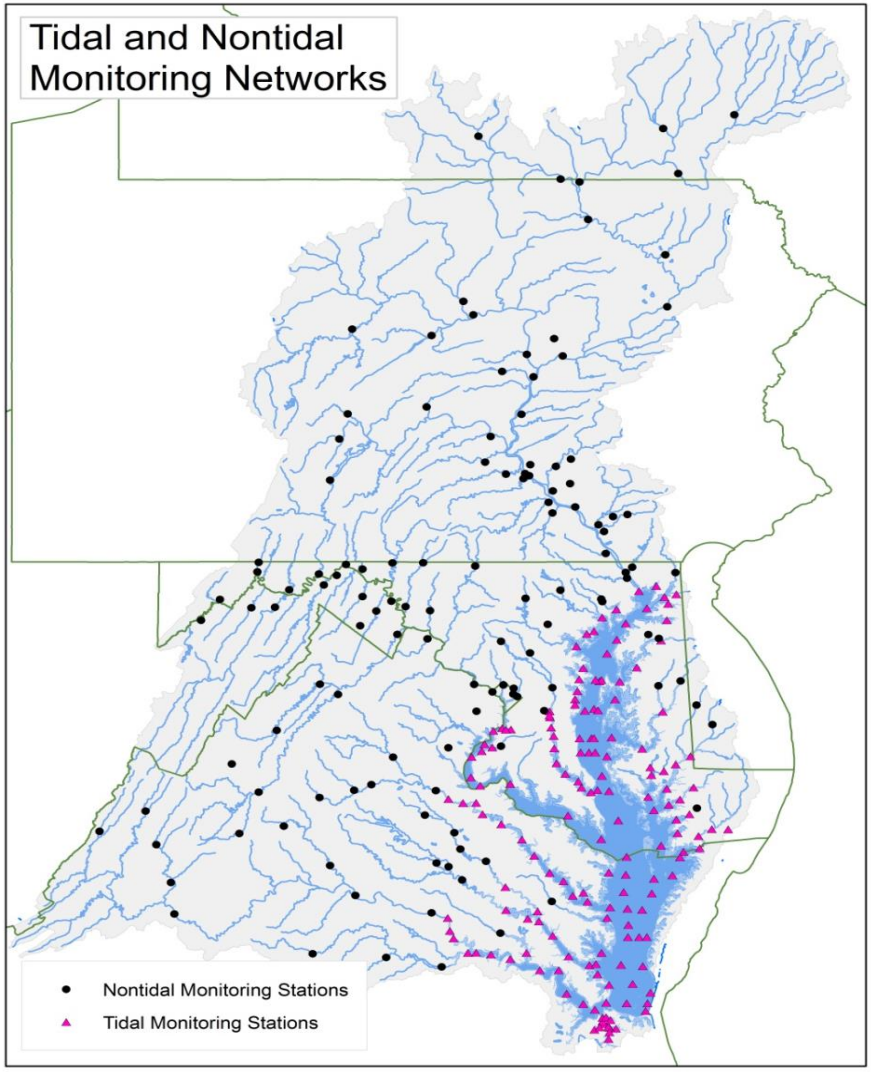
BASIN: Building And Sustaining Integrated Networks

Scott Phillips (USGS) on behalf of the STAR team

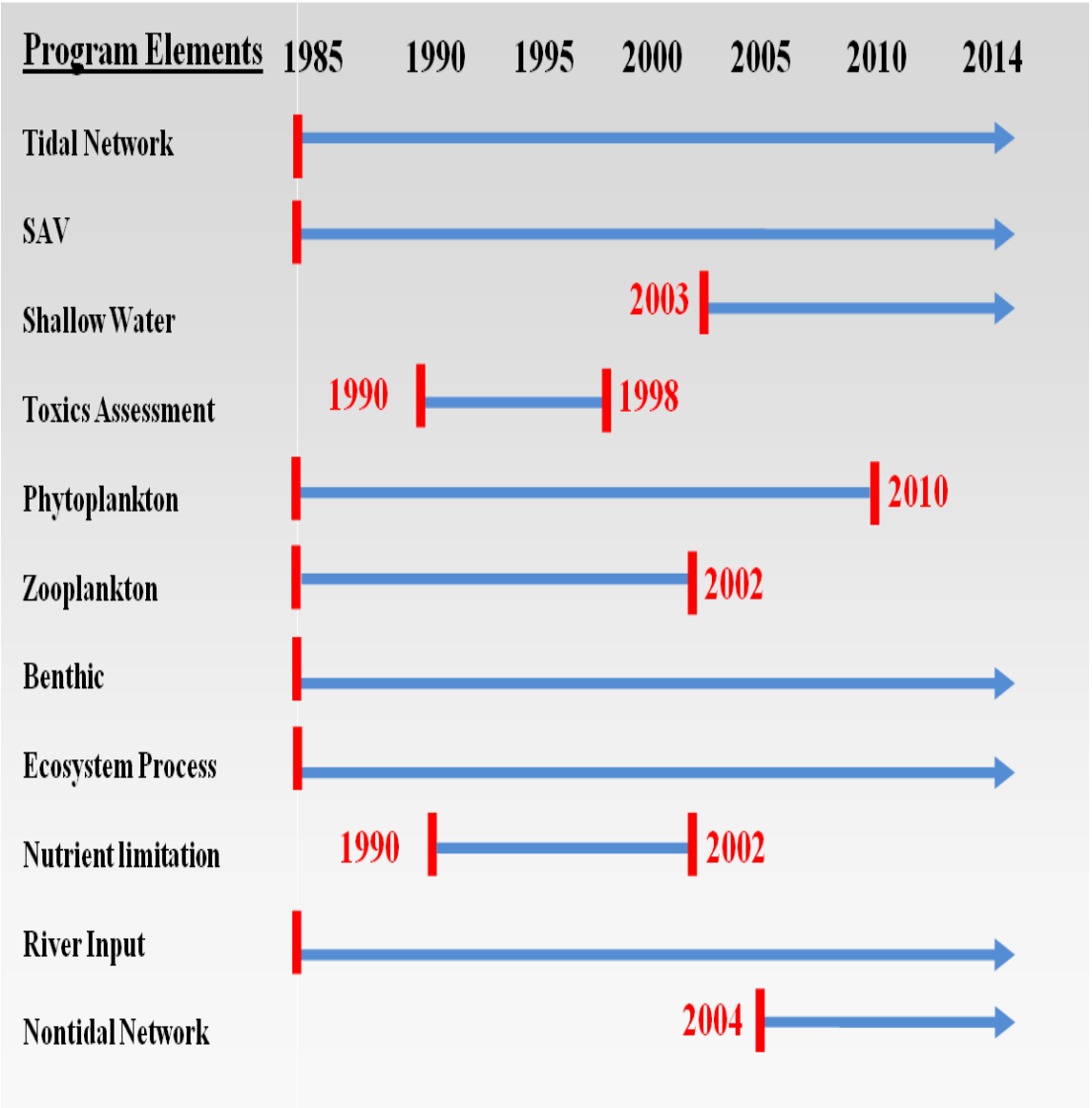
WQ Goal Team, Feb 2015

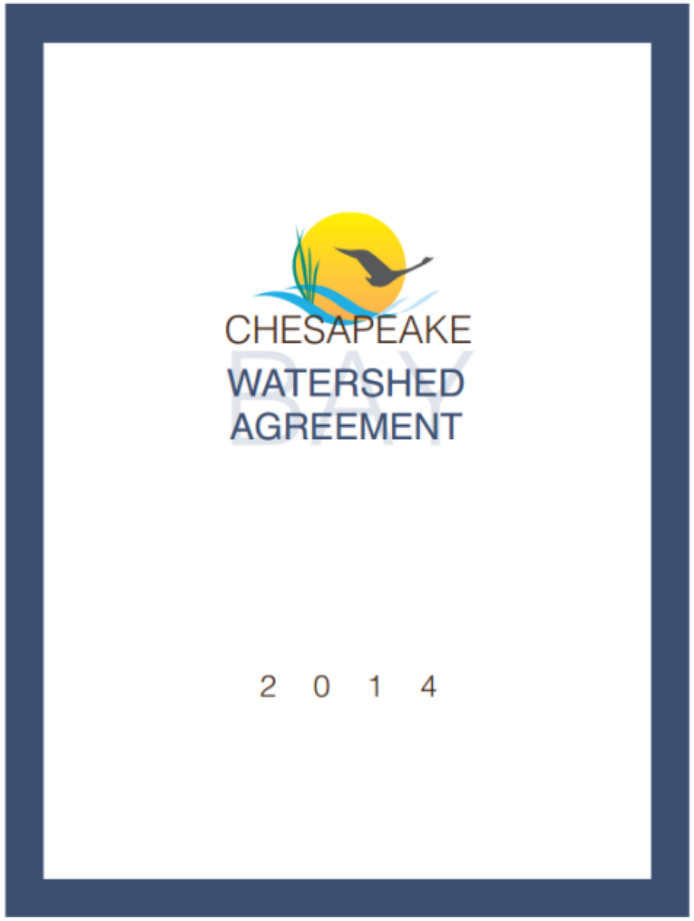
Why BASIN Is Needed

- Water-quality networks
  - STAC process in 2009
  - Standards attainment
  - Effects of practices
- 2013 funding reduction
- BASIN created
  - Sustain water-quality networks
  - Needs of 2014 Bay Agreement
  - Time frame: until 2025



CBP Network Evolution



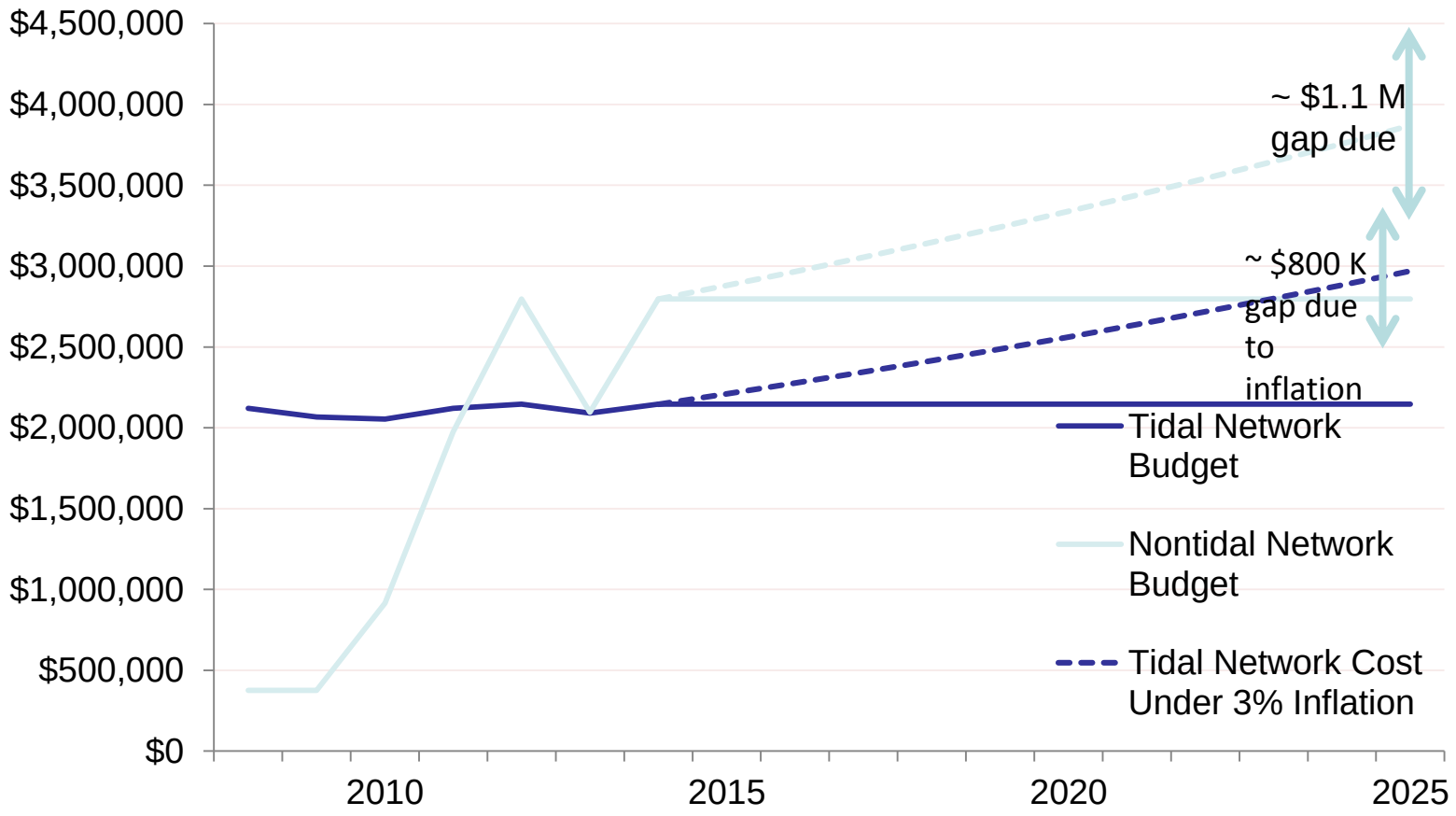


Monitoring takes resources

- **Field work is expensive** (people, equipment, vehicles, boats)
- **Data analysis is time intensive** (database development & maintenance, statistical analyses)
- Recurring costs are subject to **inflationary pressures**

Images courtesy of Chesapeake Bay Program flickr account

Inflationary pressures



BASIN: New ideas and approaches

Phase I

- Short-term review to sustain the Monitoring Network for FY2013

Phase II

- Investigate alternative operational models
- Explore business models/cost efficiencies
- Water Quality BASIN Report - Spring 2015

Phase III

- Expanded monitoring in support of the new **Watershed Agreement** beyond water quality goals

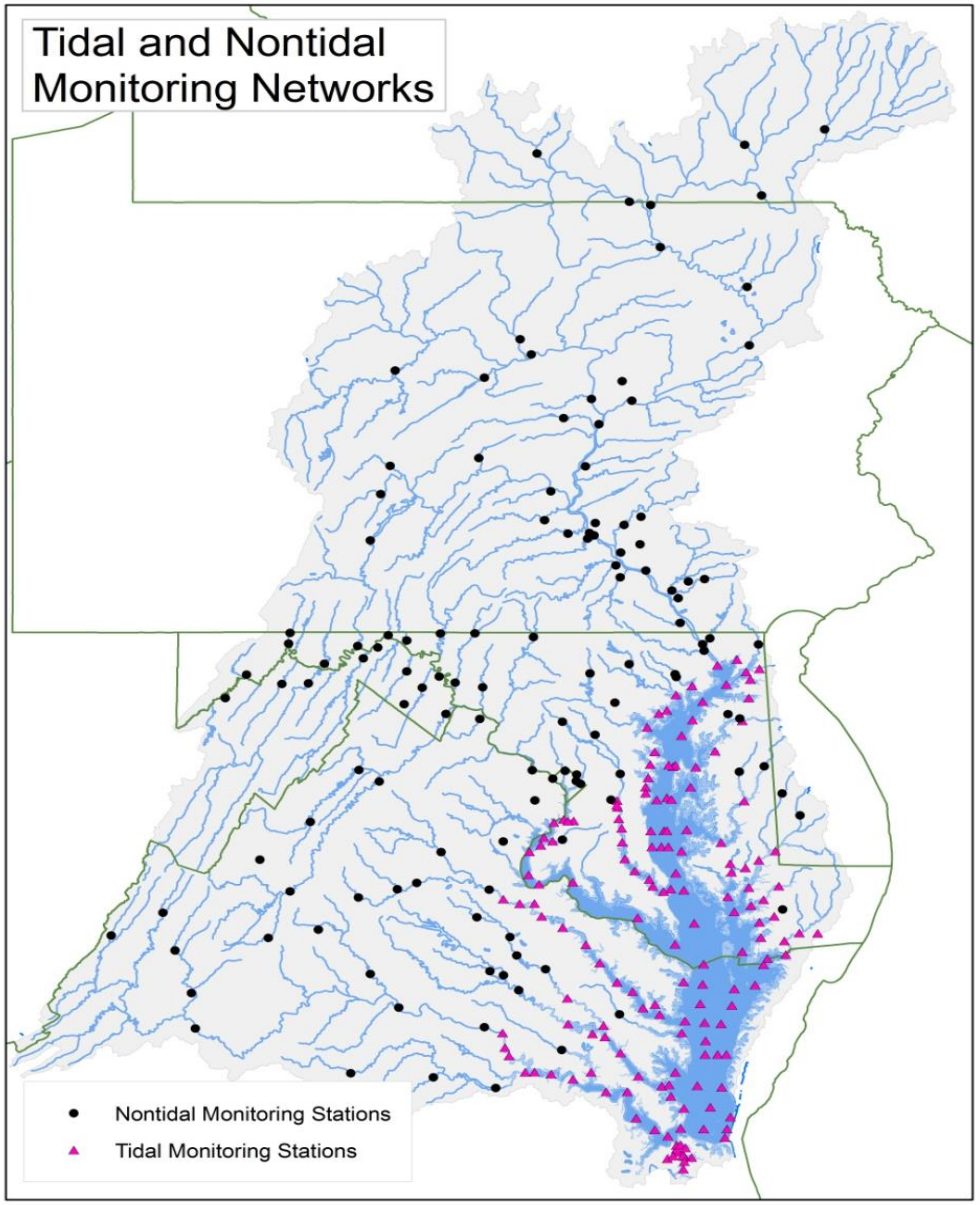
Agreement BASIN Report

Phase II Information Gathering Activities

- Global Seminar Series
- Management Effects on WQ Trends (STAC Workshop)
- Innovative Monitoring Workshop (STAC & STAR)

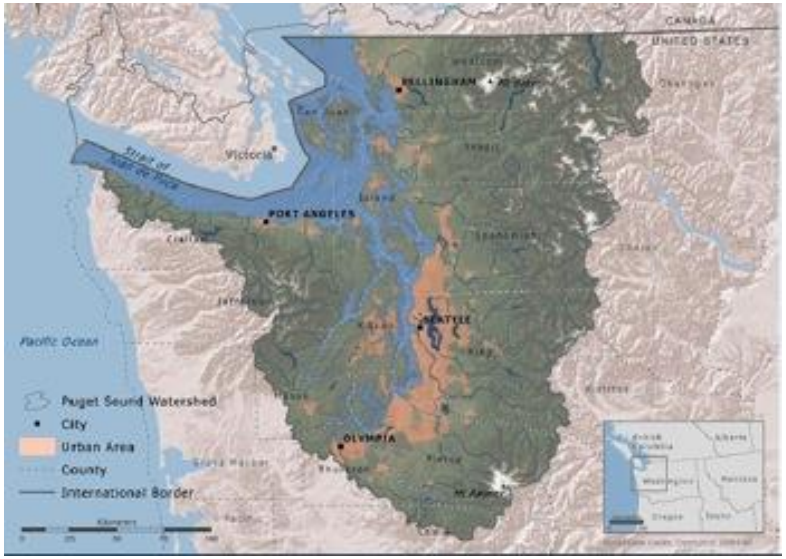
Phase II: Water-quality topics

- TMDL
- Monitoring for standards attainment
- Explaining response to management actions
- Sustaining resources



Searching the Globe

- **Innovation** enables new insights, gains efficiencies but can be resource intensive.
- **Partnerships** can expand capacity, but institutional obstacles require effort.
- **Citizen science**
- **Business models**



Citizen science

- Citizen science has tremendous potential but requires coordination, training and continuity.
  - Training needed; personnel turnover issue; QA/QC issues
  - Continuity essential
  - There are some difficult and dangerous locations where trained personnel are needed
- Chesapeake opportunities
  - 100s of programs in watershed
  - Citizen science RFP and ACB project

Business models

- Partner organizations provide significant match funds (All)
- Leveraged funds from multiple data & product consumers (MARACOOS)
- Evolution toward ‘user pays’ (Moreton Bay)

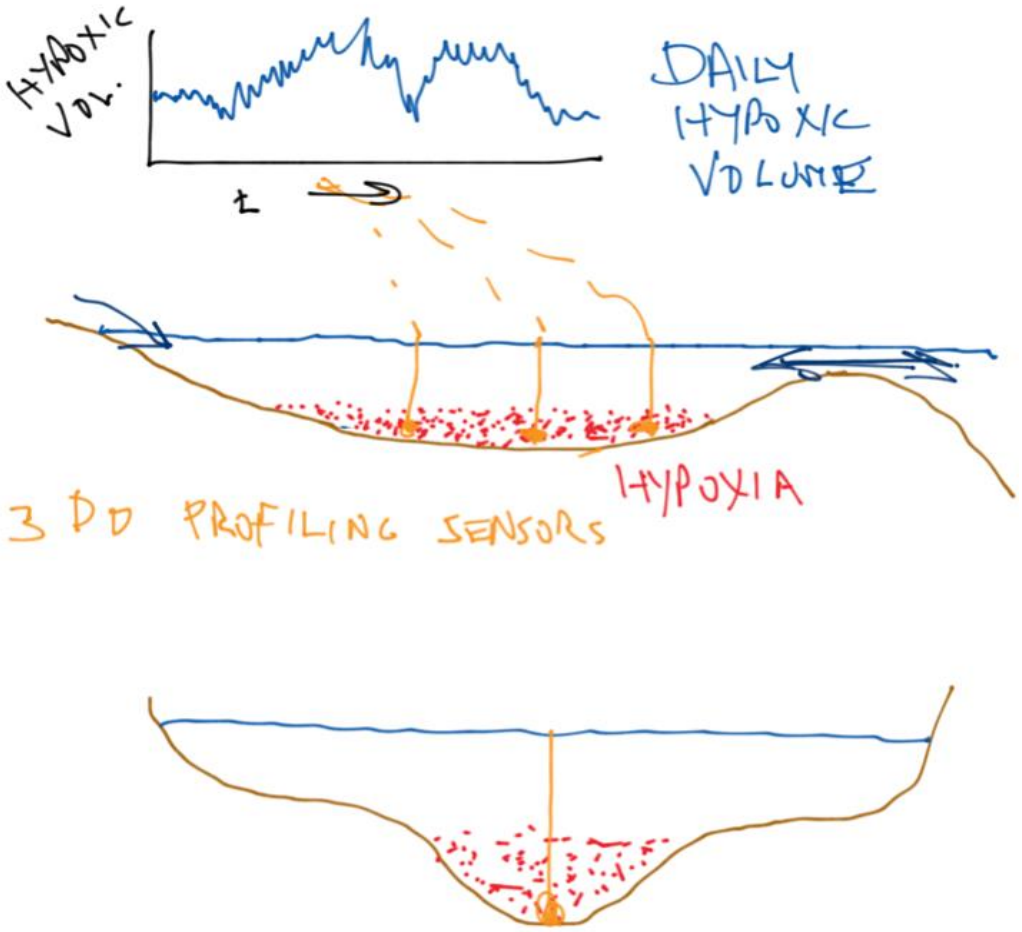
STAC: Innovative Monitoring

- Technology
- Sampling design
- Efficiencies

- **Not just asking Rich for funds**

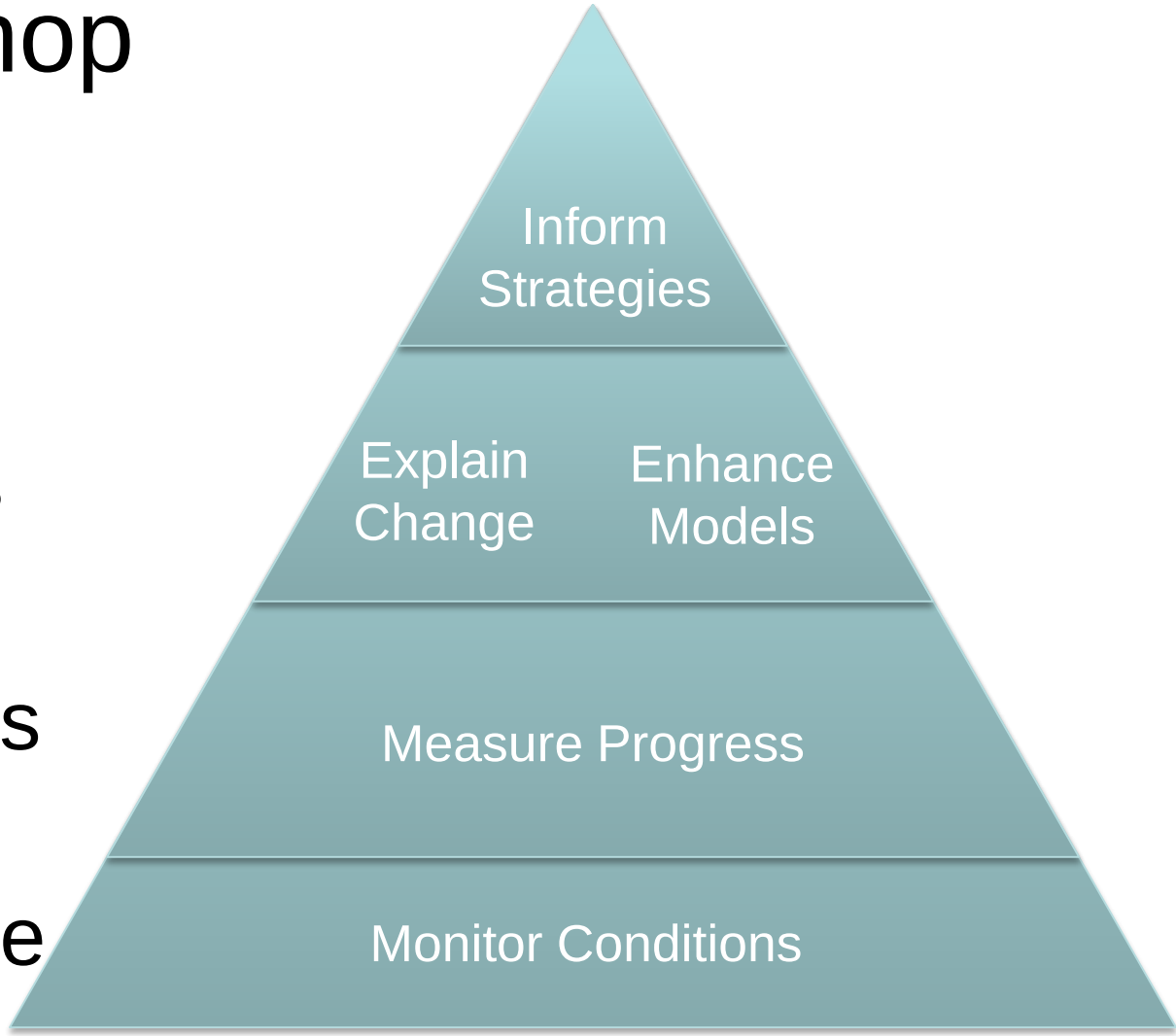
Standards Attainment

- Technology
  - Continuous monitoring
  - Interpretation
- Network Design
  - Sentinel sites
  - Models to inform
- Efficiency
  - User Council



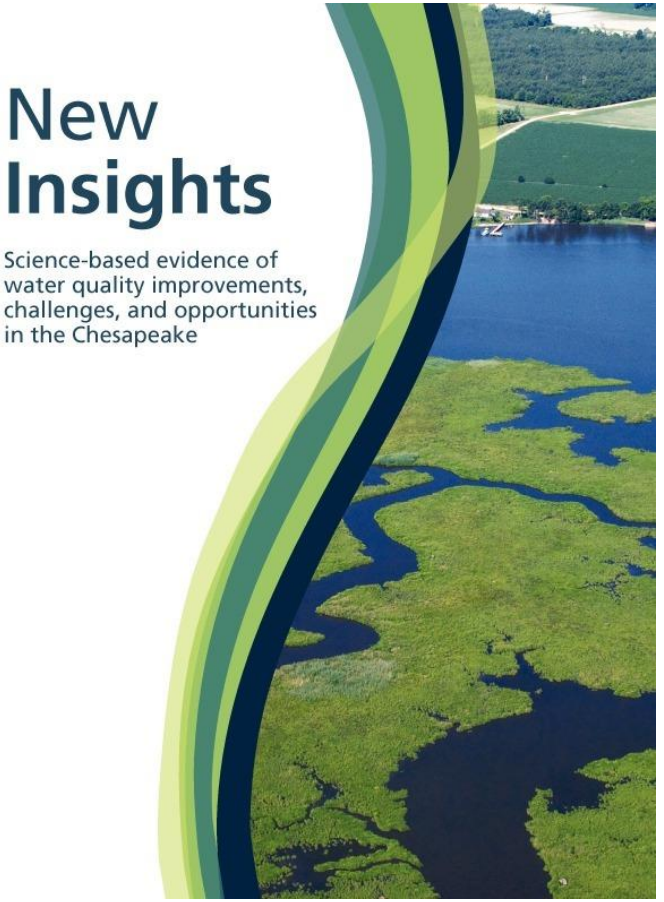
Effects of Management Actions

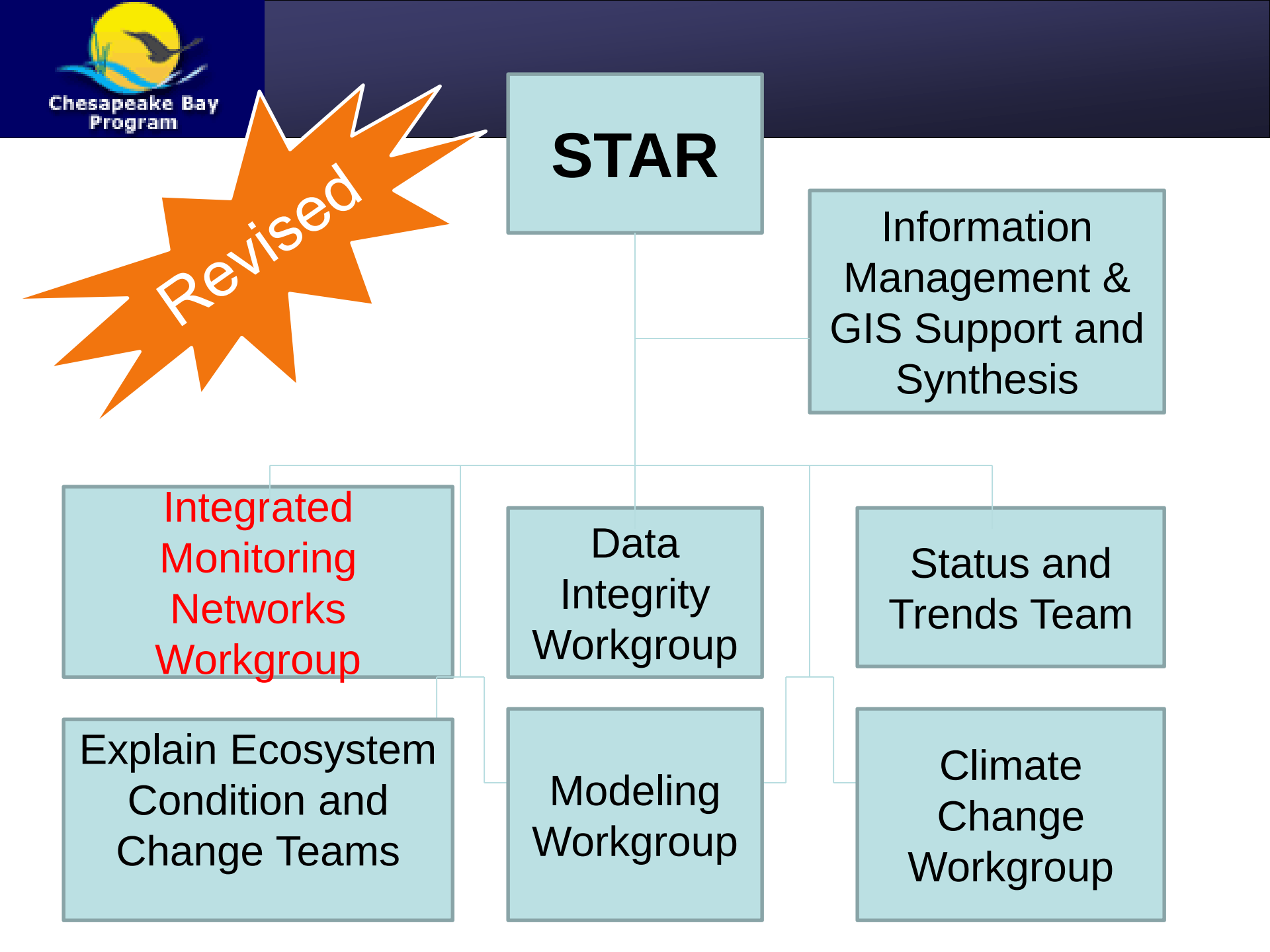
- STAC workshop
  - Interpretation
- STAR MPA
  - Measure and explain trends
- Monitoring
  - Source sectors
  - Local Govt.
  - Citizen science



Phase II: Water-quality report

- New ideas
  - Innovation
  - Partnerships
  - Citizen science
  - Business models
  - Global Seminar findings
- Full report
  - Standards attainment
  - Explaining response to management actions
  - Sustaining resources
  - Draft in March




Chesapeake Bay Program
Revised
STAR
Information Management & GIS Support and Synthesis
Integrated Monitoring Networks Workgroup
Data Integrity Workgroup
Status and Trends Team
Explain Ecosystem Condition and Change Teams
Modeling Workgroup
Climate Change Workgroup

Request of WQ Goal Team

- Comment on BASIN water-quality report.
- Help implement monitoring opportunities
  - Building partnerships
  - STAR Integrated Monitoring Networks WG
- Leveraging WQ networks to help other Bay Agreement outcomes
  - Phase III of BASIN