

Enhanced Use of Monitoring Information to Support the Mid- Point Assessment

Scott Phillips
USGS, STAR

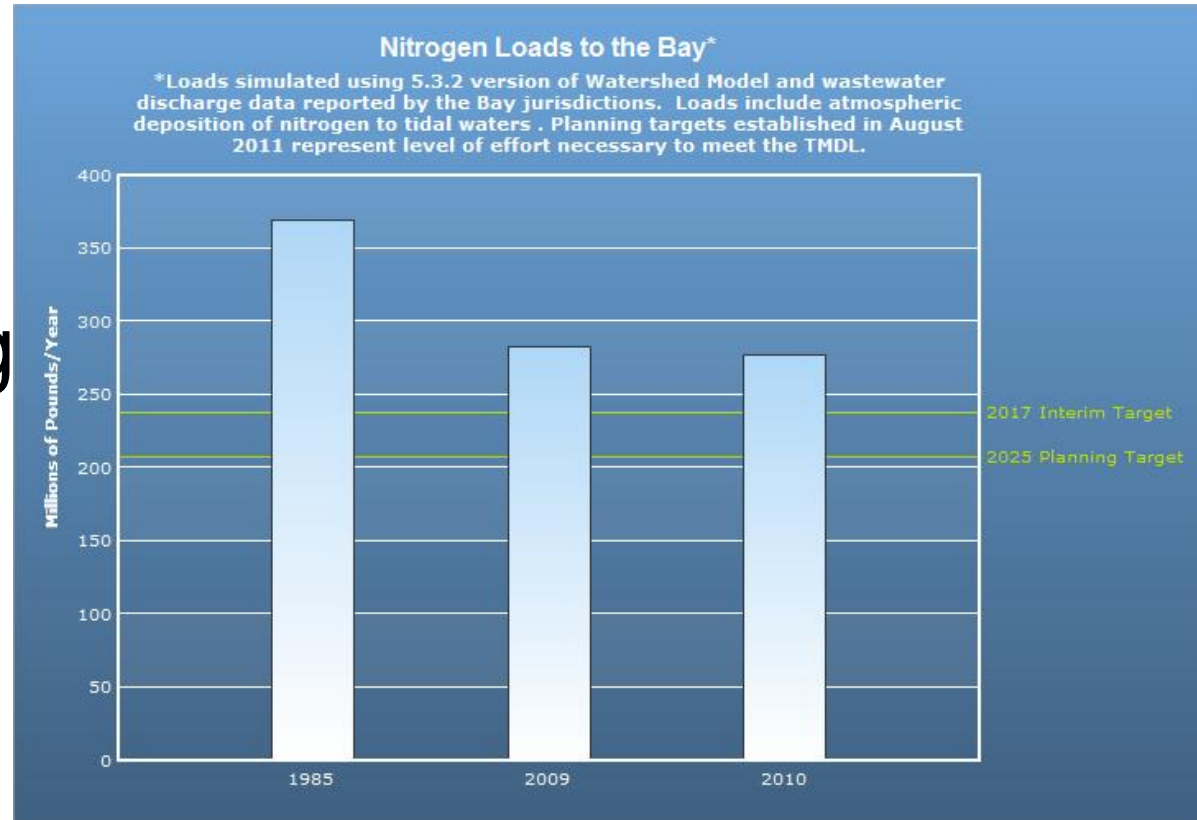
Telling the water-quality story

- How are practices being implemented for the TMDL improving water quality?
- Integrated approach:
 - Practices implemented (TMDL)
 - Nutrients/sediment in watershed
 - Attainment of standards
- WQ GIT-STAR interactions
 - Technical approaches
 - Communicating results
- Mid-Point Assessment



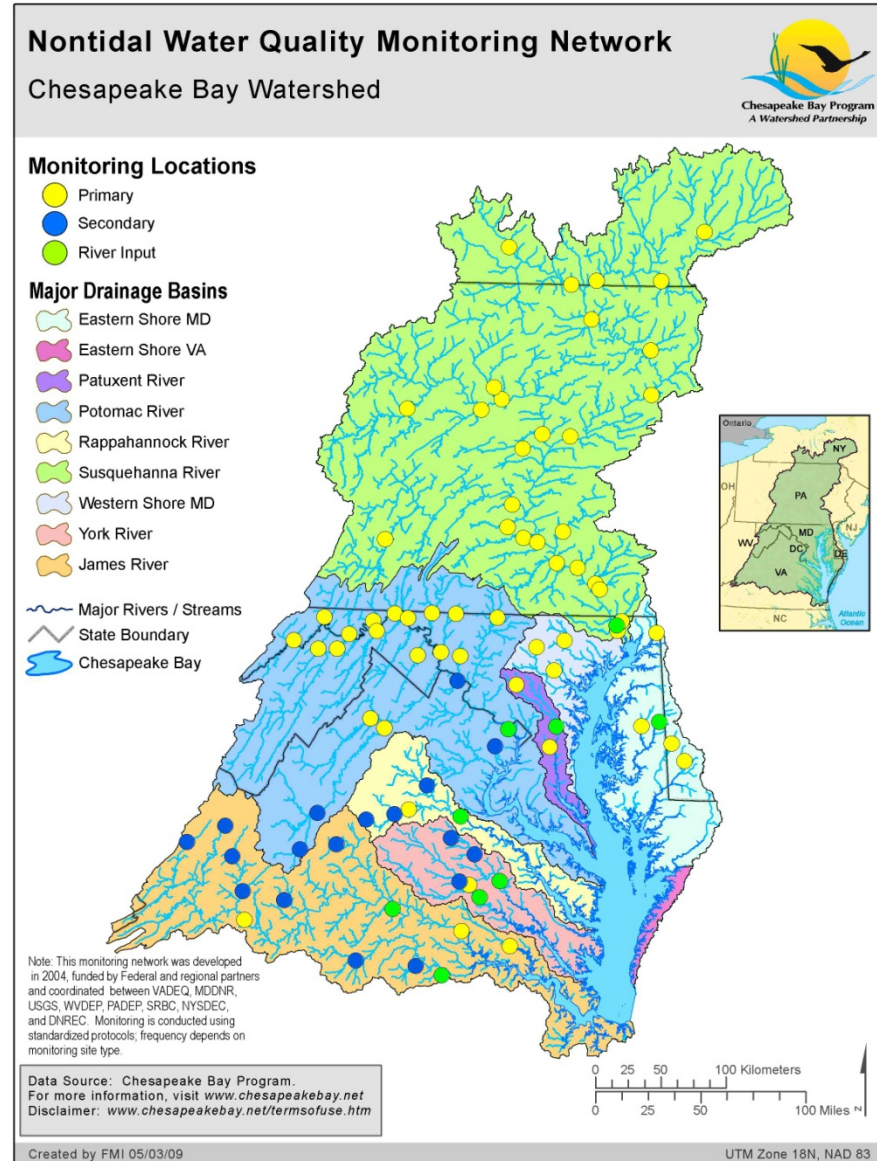
TMDL-Reporting of BMPs

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



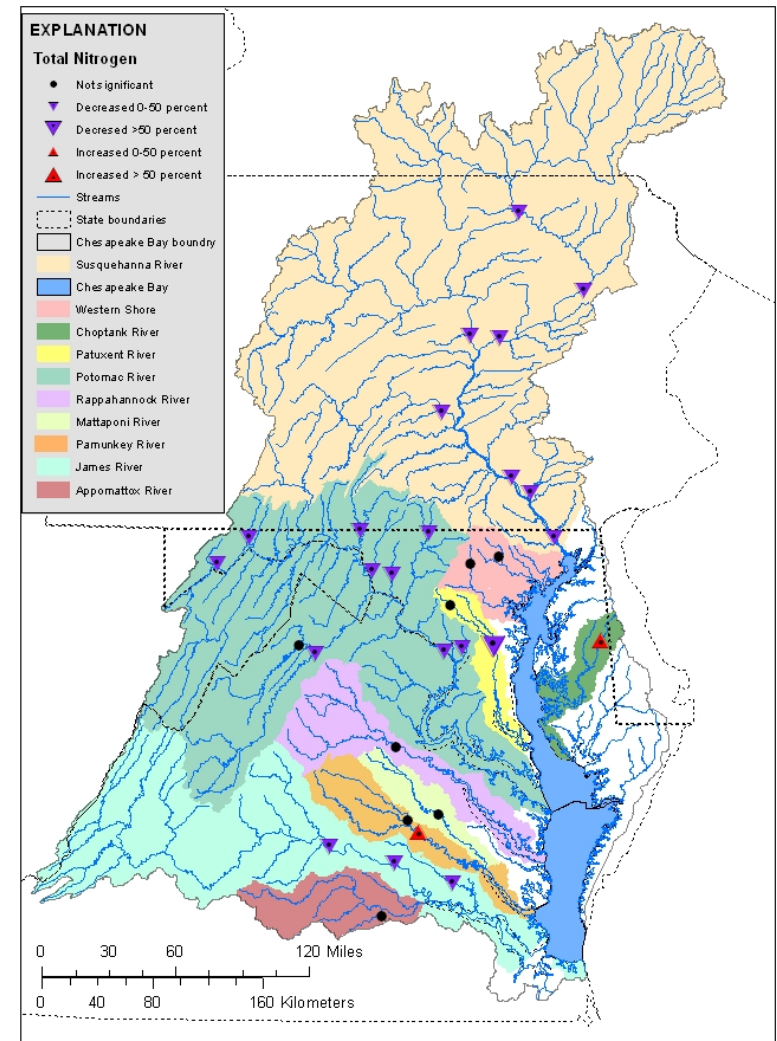
More Nontidal Monitoring

- Nutrients and sediment
- Network
 - Long-term sites
 - Adding stations
- Concentration trends
 - Long term and 10 year
- Loads
 - To the Bay
 - Change over time



Enhanced reporting of trends

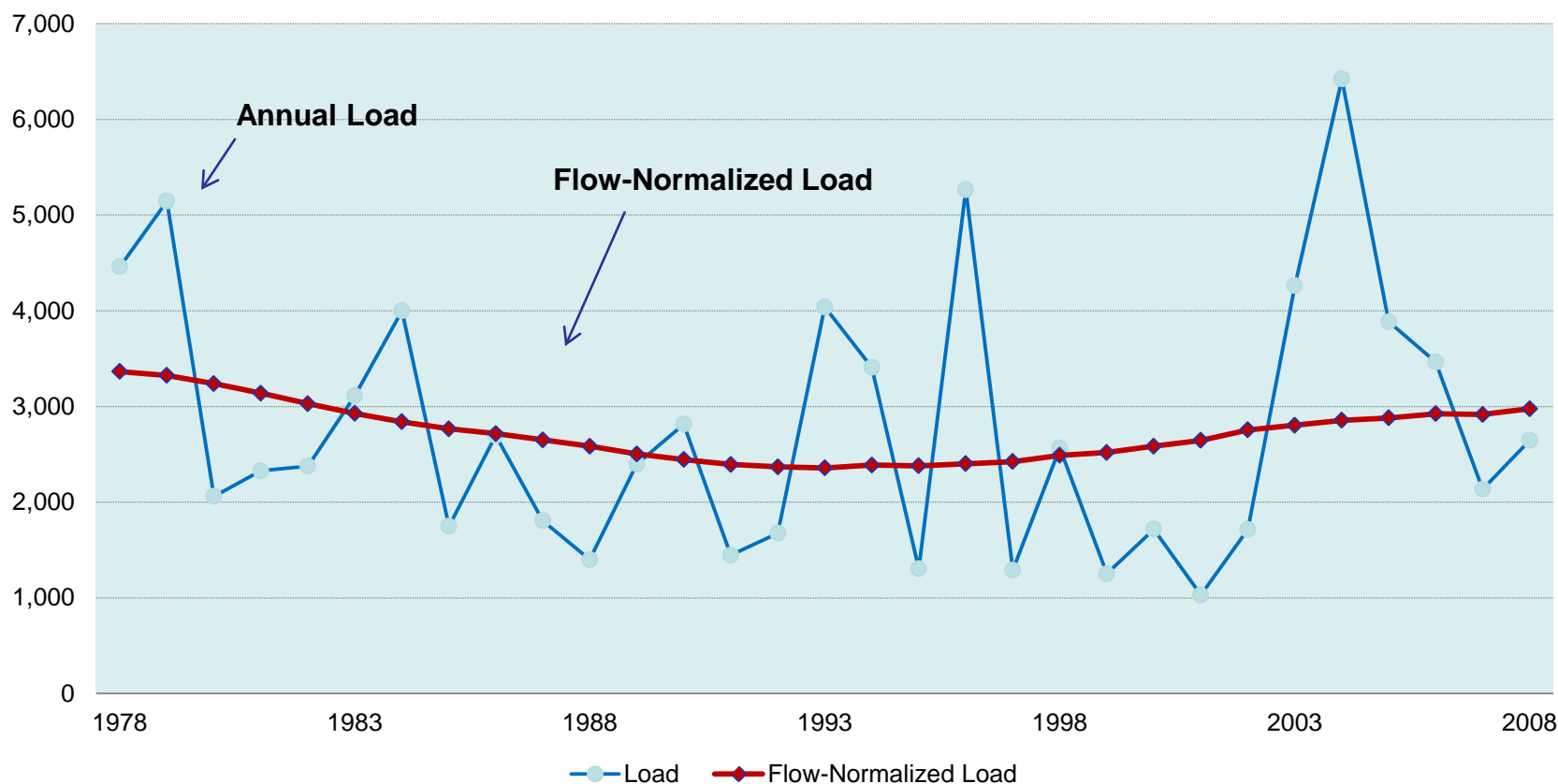
- Trends
 - 1980's-2010
 - 2000-2010
 - Flow adjusted concentrations
- Nitrogen
- Phosphorus
- Sediment
- New approach for loads over time
 - River-input sites



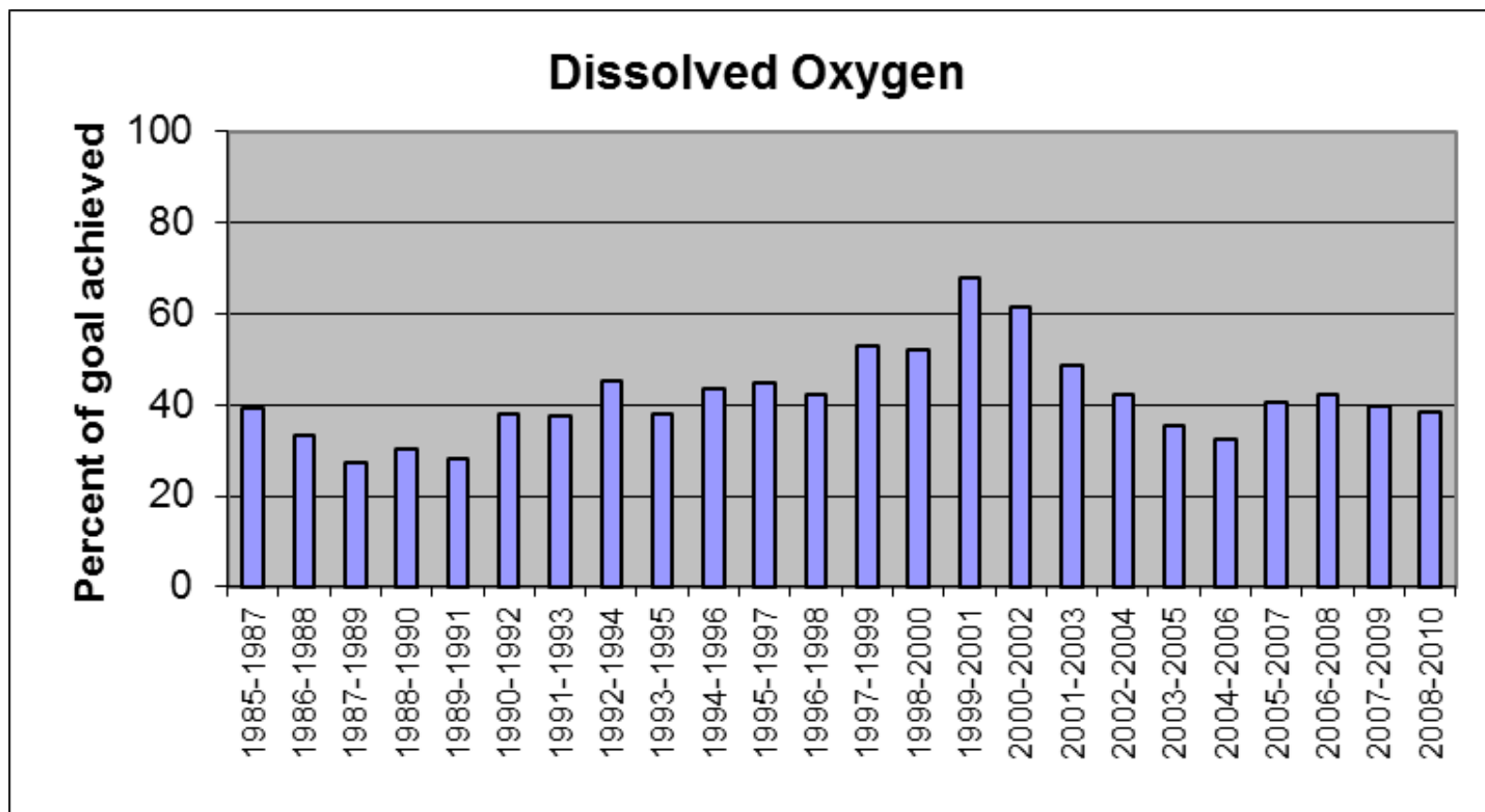
Flow-adjusted trends for total nitrogen for 31 sites in the Chesapeake Bay Watershed, 1985-2010.

New Technique: Change in Load

Susquehanna River At Conowingo, Maryland
Total Phosphorus Load (tons per year)



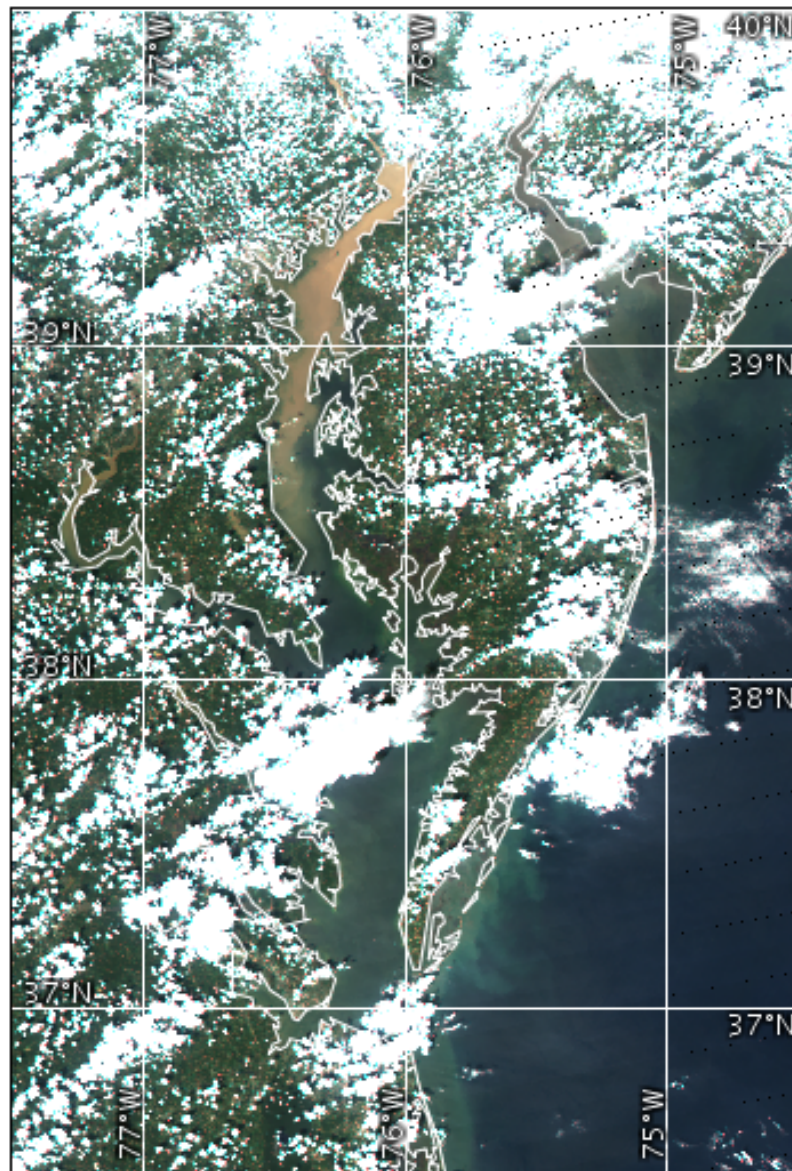
Water-Quality Standards



- DO, clarity, chl-a in progress toward standards
- Enhanced indicator

Tidal Enhancements

- DO monitoring-
NOAA CBIBS
- Remote sensing
- Assessments of
segments



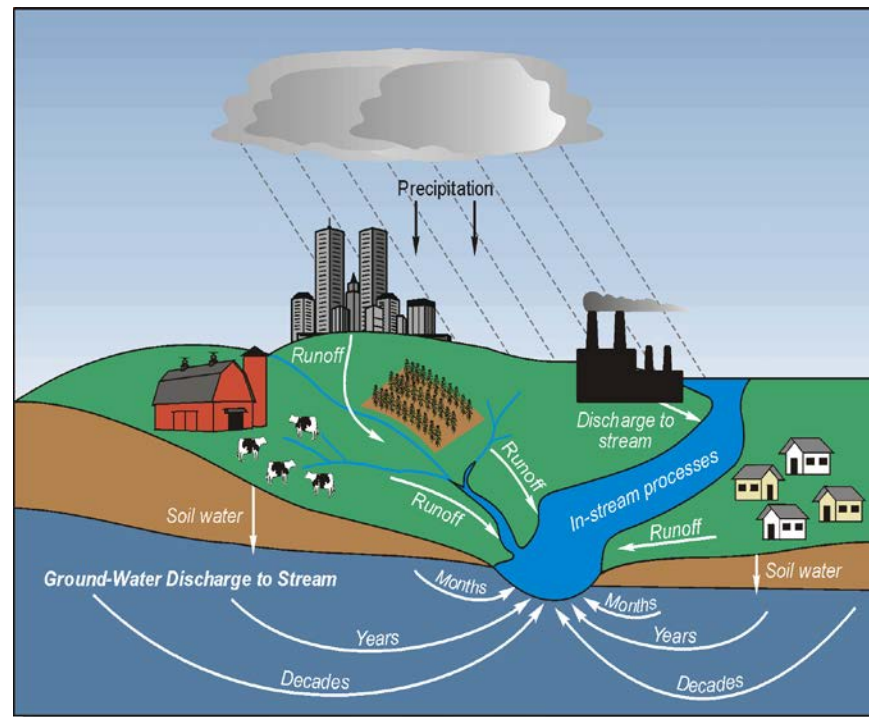
Data courtesy of:
USDOC/NOAA/NESDIS
CoastWatch

Satellite:
AQUA
Sensor:
MODIS
Date:
2011/09/11 JD 254
Start time:
18:05:00 UTC
End time:
18:10:00 UTC
Projection type:
MAPPED
Map projection:
0.28 km/pixel
MERCATOR
Latitude bounds:
35 N -> 41 N
Longitude bounds:
79 W -> 73 W



Explaining Change

- Practices and water-quality improvements
- Reports to explain water quality changes
 - “Lessons learned” report (STAR)
 - USGS: Trend in loads; Eastern Shore (2013), Potomac (2015-16)
- EPA/USGS loads at RI stations
- STAR: changes in estuary



Discussion and Next Steps

- Are these the “right” priorities?
- Other items to consider?
- STAR (NTWG and TMAW) need to work on next steps and interact with WQGIT
- Better communicate monitoring results for:
 - Annual updates (EC meeting, etc)
 - 2-year milestones
 - Mid-Point Assessment