

2010 Bay Barometer Communication Challenges for the Water Quality GIT

Presentation to WQGIT

September 13, 2010

Purpose of Today's Discussions

- Discuss indicators for assessing pollution reduction efforts via Bay Barometer
 - Agree on recommendations for changes
- Discuss options related to “2-yr milestone progress reporting” via Bay Barometer
 - Agree on recommendations for HOW to report
 - Discuss options for WHAT to report (recommendations to be determined at Oct 25 meeting)
- Recommendations to be provided to STAR and CWG
- Final recommendations (from STAR, CWG and WQGIT) provided to MB for their decision in November or December, 2010

Challenge I: TMDL will require changes to “reducing pollution” measures

Current Pollution Control Measures:

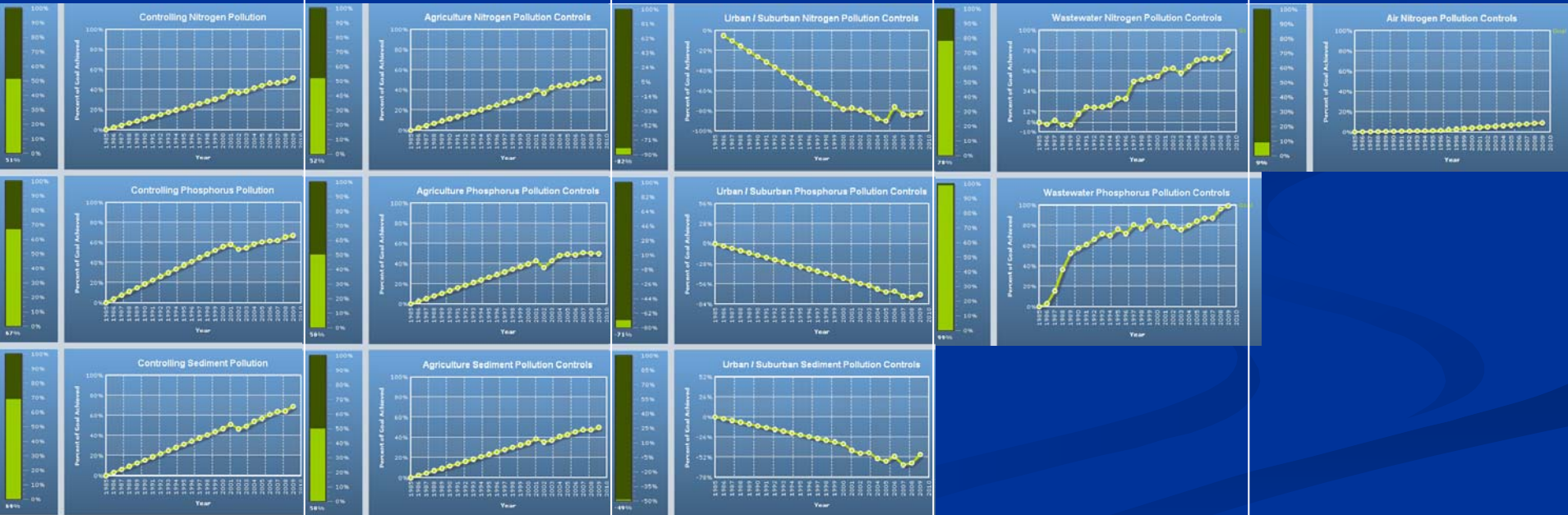
Top level indices:
N/P/Sed pollution
controls

Reporting-level
indices:
agricultural
N/P/Sed controls

Reporting-level
indices:
urban/suburban
N/P/Sed controls

Reporting-level
indices:
wastewater N/P
controls

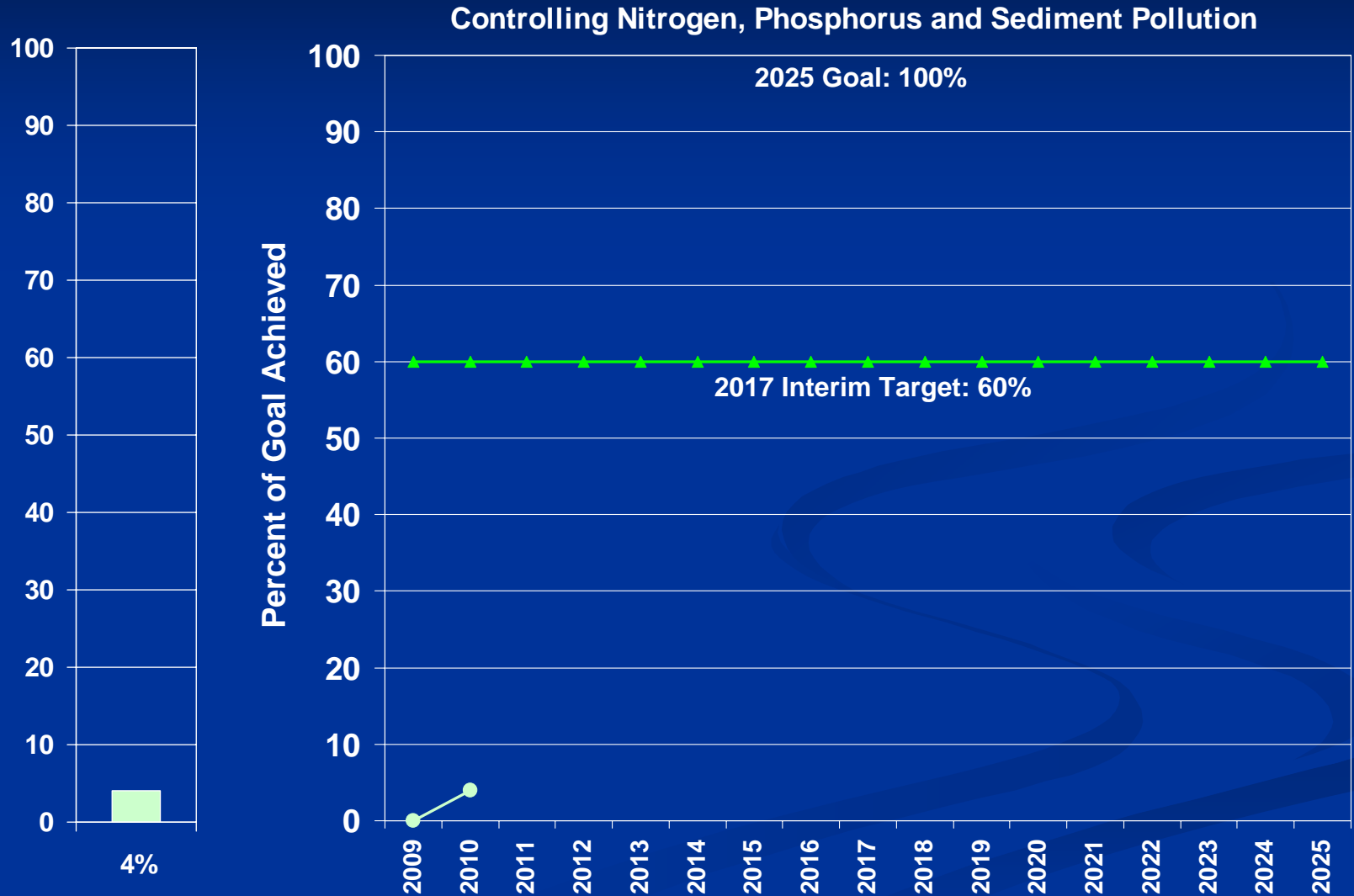
Reporting-level
index: air N
controls



Revised Measures for Assessing Pollution Reduction Efforts

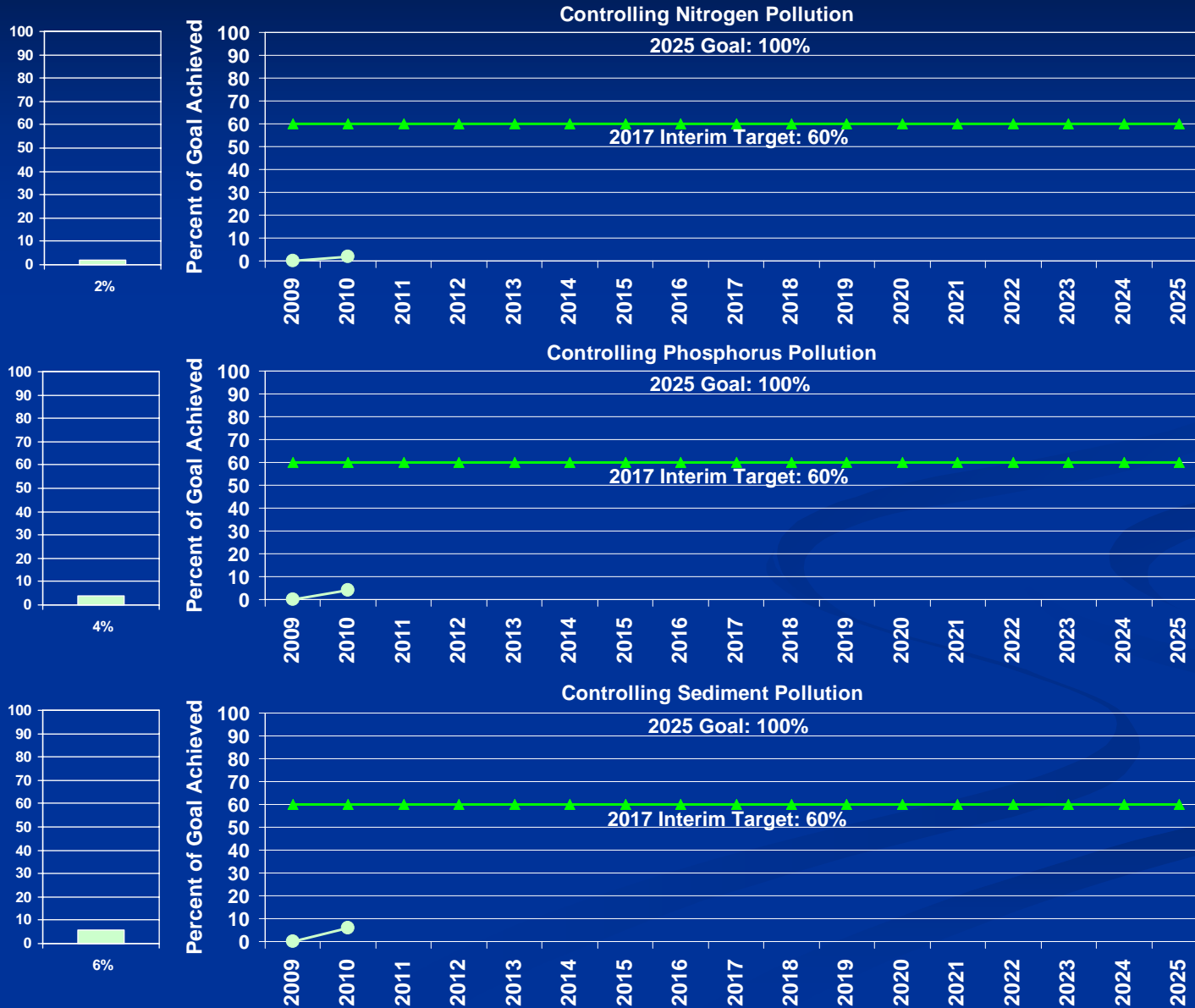
- Top-level index: average of N, P and Sed indices
- Reporting-level indices: N, P and Sed indices
- Supporting-level indicators
 - to show historical progress prior to 2009
 - to show breakout by jurisdiction
 - to show breakout by sector

Top-level Index: Average of N, P and Sed Indices



Note: 2010 values are placeholders and not based on real data

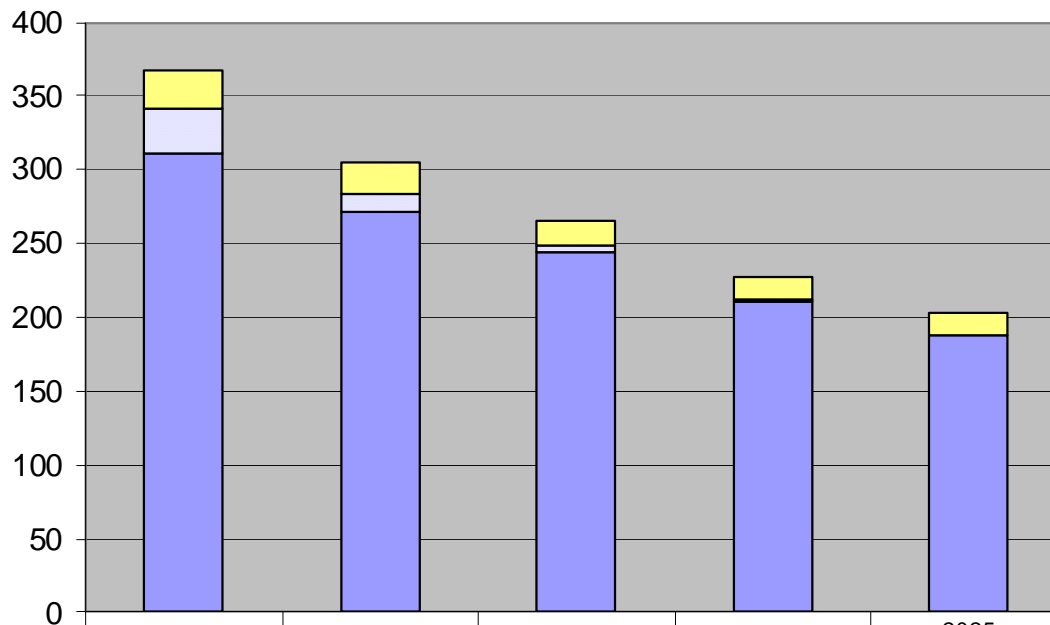
Reporting-level Indices: N, P and Sed Indices



Note: 2010 values are placeholders and not based on real data

Supporting-level Indicators: “History”

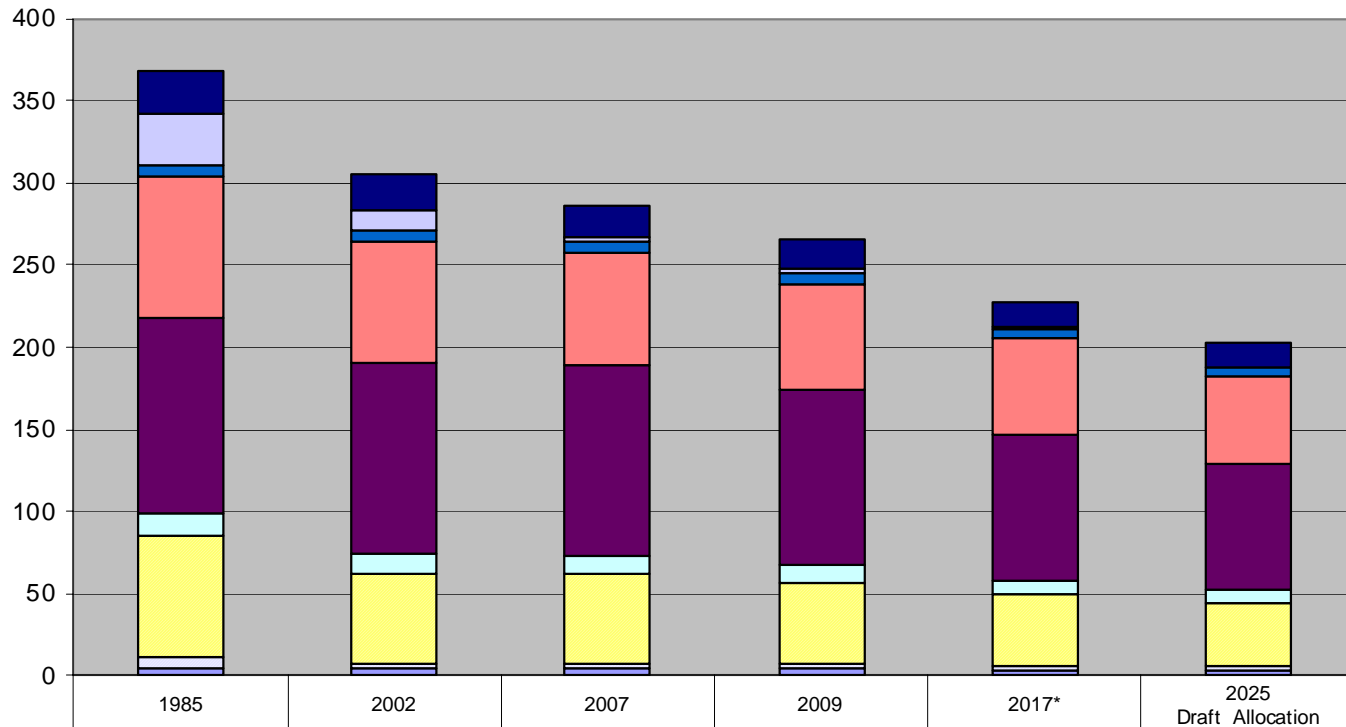
Model-Simulated Total Nitrogen Load to Bay (million pounds/year)



■ EPA Responsibility: Model-simulated Total N Loads Delivered to Bay from atm. Dep. of N to tidal water****	26.08	21.59	17.42	16.39	15.70
□ EPA Responsibility: Model-simulated Total N Loads Delivered to Bay from atm. Dep. of N to watershed in excess of the 2020 CAIR***	31.43	12.78	3.45	1.38	0
■ State Responsibility: Model-simulated Total N Loads Delivered to Bay from all watershed sources, including atm. dep. of N to watershed that has not been/will not be reduced from CAA**	310.41	271.09	244.49	210.26	187.44

Supporting-level Indicators: Breakout By Jurisdiction

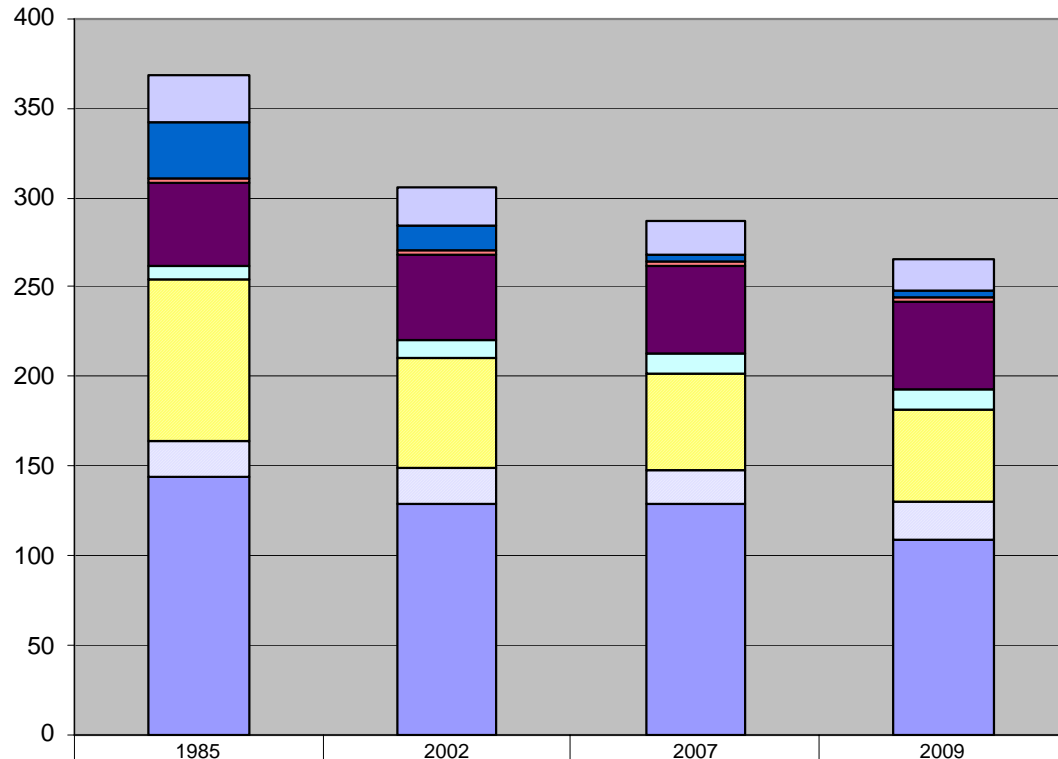
Model-Simulated Total Nitrogen Load to Bay (million pounds/year)



■ EPA tidal water****	26.08	21.59	18.98	17.42	16.39	15.70
■ EPA watershed***	31.43	12.78	3.67	3.45	1.38	0
■ WV	6.68	6.58	6.19	5.77	5.12	4.68
■ VA	86.46	73.57	69.16	65.30	58.16	53.40
■ PA	118.08	116.55	115.11	106.41	88.63	76.77
■ NY	13.60	12.04	11.89	10.54	9.16	8.23
■ MD	74.91	55.25	54.58	49.42	43.22	39.09
■ DC	6.20	2.99	2.57	2.85	2.53	2.32
■ DE	4.47	4.11	4.43	4.18	3.44	2.95

Supporting-level Indicators: Breakout By Sector

Model-Simulated Total Nitrogen Load to Bay (million pounds/year)



Deposition to tidal water****	26.08	21.59	18.98	17.42
Deposition to watershed in excess of 2020 CAIR***	31.43	12.78	3.67	3.45
Non-Tidal Water Deposition	2.37	2.47	2.45	2.53
Forest	46.35	48.39	48.57	49.32
Septic	7.95	10.06	10.71	11.00
Wastewater	90.12	61.01	54.54	51.77
Urban runoff	19.20	20.46	18.87	20.38
Agriculture	144.42	128.70	128.78	109.49

TMDL Will Require Changes to “Reducing Pollution” Measures: Recommendations

- Is WQGIT in agreement with recommendations for revised indicators for assessing Pollution Reduction Efforts?
 - ✓ Top-level index: average of N, P and Sed indices
 - ✓ Reporting-level indicators: N, P and Sed indices
 - ✓ Supporting-level indicators
 - ✓ to show “history”
 - ✓ to show breakout by sector
 - ✓ to show breakout by state

Challenge II: EC Expects 2-yr Milestone Progress to be Tracked Annually in BB

■ HOW to report

- Discuss options at Sept 13th meeting
- Provide a recommendation at Sept 13th meeting

■ WHAT to report

- Discuss options at Sept 13th meeting
- Provide recommendations at Oct 25th meeting

HOW to Report: Suggested Options

- OPTION 1: Publish 2010 BB (in spring 2011), driving home our best accounting of progress in meeting the 2011 voluntary milestones.

HOW to Report: Suggested Options

- OPTION 2: Publish 2010 BB (in spring 2011) as usual with a 2011 fall/winter supplement on voluntary 2-Year Milestones.

HOW to Report: Suggested Options

- OPTION 3: Phased approach
 - Phase 1: 2010 BB (to be published spring 2011) includes an introduction to 2-yr milestones; lays out the issues and groundwork for 2011 BB (published in spring 2012). Reports some state examples of progress.
 - Phase 2: 2011 BB (to be published spring 2012) introduces the new 2-yr milestones to be tracked (Jan 2012-Dec 2013 period)

HOW to Report: Suggested Options

- **OPTION 4: Variation on option 3 (four-phased approach)**
 - Phase 1: same as option 3
 - Phase 2: Late spring 2011 (concurrent with EC mtg?), mid-term progress report on the first set of 2-year milestones (May 2009-Dec 2011 period)
 - Phase 3: Late fall 2011, publish document introducing concepts and issues for new, regulatory 2-yr milestones and milestones for other E.O. strategy outcomes
 - Phase 4: 2011 BB (to be published spring 2012) announces the new 2-yr milestone commitments (Jan 2012-Dec 2013 period) and, reports on the accomplishment of the first set of 2-year milestones (May 2009-Dec 2011 period)

HOW to Report: Suggested Options

- OPTION 5: Use ChesapeakeStat to report progress on 2-yr milestones (instead of the BB)

Recommendations for HOW to Report

- STAR recommended option 3 or 4: a phased approach whether it is two phases or four
- CWG is still debating a recommendation, but is leaning toward option 2 or 3
- STAC will discuss on 9/14/10
- WQGIT recommendation on HOW to report:
 - TBD on Sept 13th after we discuss options for WHAT to report

WHAT to Report

for First Set of 2-yr Milestones established May 2009

- WHAT: Reporting on actions or load reductions or both?
 - Jurisdictions made commitments for both actions and load reductions
- TIMEFRAME: Reporting actions and/or load reductions as of what date (May 2009? Other date?)
- HOW: If we report load reduction progress, how do we account for commitments made using phase 4.3 now that we are using phase 5.3 for BB reporting?

Actions/Loads/Both?

Suggested Options

- For 2010 BB,
 1. Report *actions* taken in relation to commitments made in 2009.
 2. Report *load reductions* in relation to commitments made in 2009.
 3. Report both
 4. Other options? (Will discuss on Sept 13th)
- For 2011 BB,
 1. Report *actions* taken in relation to commitments made in 2009.
 2. Report *load reductions* in relation to commitments made in 2009.
 3. Report both
 4. Others options? (Will discuss on Sept 13th)

Timeframe

Suggested Options (Loads)

- If we report “load” reductions, need to use phase 5.3 model
- Progress runs currently use reported actions taken July through June and submitted in December
 1. Do we compare 2009 and 2011 progress runs?
 - 2009 based on actions from July 2008-June 2009
 - 2011 based on July 2010-June 2011
 2. Do we compare 2009 progress run to a revised 2011 progress run reporting window (through Dec 2011)?
 3. Do we compare 2010 progress run to 2011 progress run?
 - 2010 based on actions from July 2009-June 2010
 - 2011 based on July 2010-June 2011 (or Dec 2011)?
 4. Other options? Will discuss on Sept 13th

Timeframe

Suggested Options (Actions)

- If we report actions, jurisdictions can track this without using watershed model. However, need to agree on timeframe.
 1. Align w/ Milestone document: May 2009-Dec 2011 (2 yrs, 7 months)
 2. Align w/current progress run reporting windows:
 - a. July 2009-June 2011 (2 years)
 - b. July 2008-June 2011 (3 years)
 3. Align w/revised progress run reporting windows:
 - a. July 2009-Dec 2011 (2 yrs 5 months)
 - b. July 2008-Dec 2011 (3yrs 5 months)
 4. Other options? Will discuss on Sept 13th

How do we account for commitments made using phase 4.3 now that we are using phase 5.3 for Bay Barometer reporting?

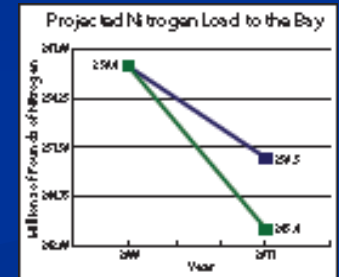
Suggested Options

*** This is not an issue if we decide to report actions only

1. If we decide to report our progress on simulated load reductions, we could compare the slope of the lines in the published Milestone document charts (based on phase 4.3) to the slope of lines generated for the same time period using phase 5.3 progress runs

- These slopes would be converted to percent reductions
- Then percent reduction commitments (using 4.3) could be compared to the percent reductions achieved (using 5.3)
- This could be considered a "default option" since it really does not report simulated load reductions (it reports % reductions).

2. Other options? Will discuss on Sept 13th



Recommendations from WQGIT for HOW to Report

WQGIT will make recommendation on Sept 13th

OPTION 1: Publish 2010 BB (in spring 2011), driving home our best accounting of progress in meeting the 2011 voluntary milestones.

OPTION 2: Publish 2010 BB (in spring 2011) as usual with a 2011 fall/winter supplement on voluntary 2-Year Milestones.

OPTION 3: Two-Phased approach

OPTION 4: Four-Phased approach

OPTION 5: Use ChesapeakeStat

Recommendations for WHAT to Report

WQGIT will finalize recommendations on Oct 25th

- Actions/Loads/Both
 - 2010 BB: option x
 - 2011 BB: option x

- Timeframe
 - Loads: option x
 - Actions: option x

- Converting 4.3 to 5.3
 - Option x