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Proposed Guidelines for Watershed Implementation Plans

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Water Quality Goal Implementation Team
Presentation I
September 30, 2009

Overview

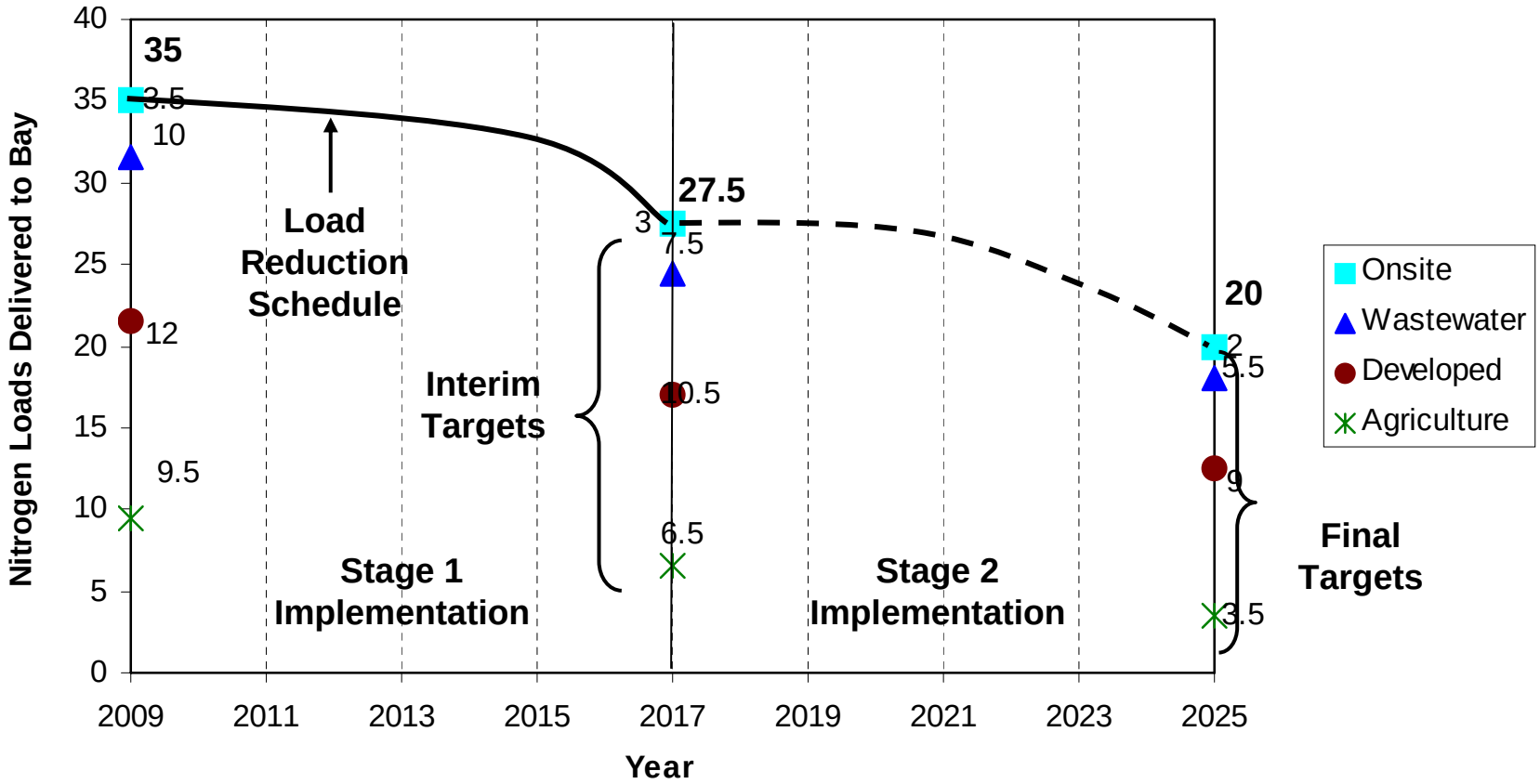
- Summary of Watershed Implementation Plans
- Follow-up from August 24 Conference Call
  - Reason for Watershed Implementation Plans
  - Role in TMDL process
  - Mid-point (2017) loading target
  - Staged implementation
  - Schedule for developing plans, and future planning efforts
  - Format for submitting Watershed Implementation Plan outputs
- Feedback Requested

Watershed Implementation Plan Summary

- "Watershed Implementation Plans" + "2-Year Milestones" = "Clean Water Accountability Programs"
  - Major recommendation of draft Executive Order 202(a) report
  - Transition from major basin/jurisdiction targets to TMDL allocations
  - Supports assurance that allocations will be achieved and maintained

- Represents upfront plan, commitment, and schedule to reduce nutrient and sediment loads to meet TMDL allocations
  - Performance-based: Focuses on basin/jurisdiction target loads rather than specific controls, allowing for flexibility, targeting, and possible offsets over time
  - Includes interim and final targets by impaired segment drainage, sector, and county
  - Defers some planning elements and more specific commitments to 2-year milestones and Stage 2 implementation

Example: Projected N Delivery by Source Sector



** Note: Numbers are illustrative and do not indicate basin/jurisdiction and sector current, tributary strategy, or target loads **

- Attaining specific load reductions by the interim target would be required
- Jurisdiction would determine desired reduction schedule to meet load reduction
- EPA would evaluate milestones based on whether consistent with reduction schedule

Upfront Plan Includes:

1. Interim and Final Load Targets by Major Basin and Sector

2. Current Capacity and Gap Analysis

3. Strategy to Fill Gaps: State/District-wide and in Each Major Basin
   - Policies, regulations, etc., by sector
   - Dates for key actions

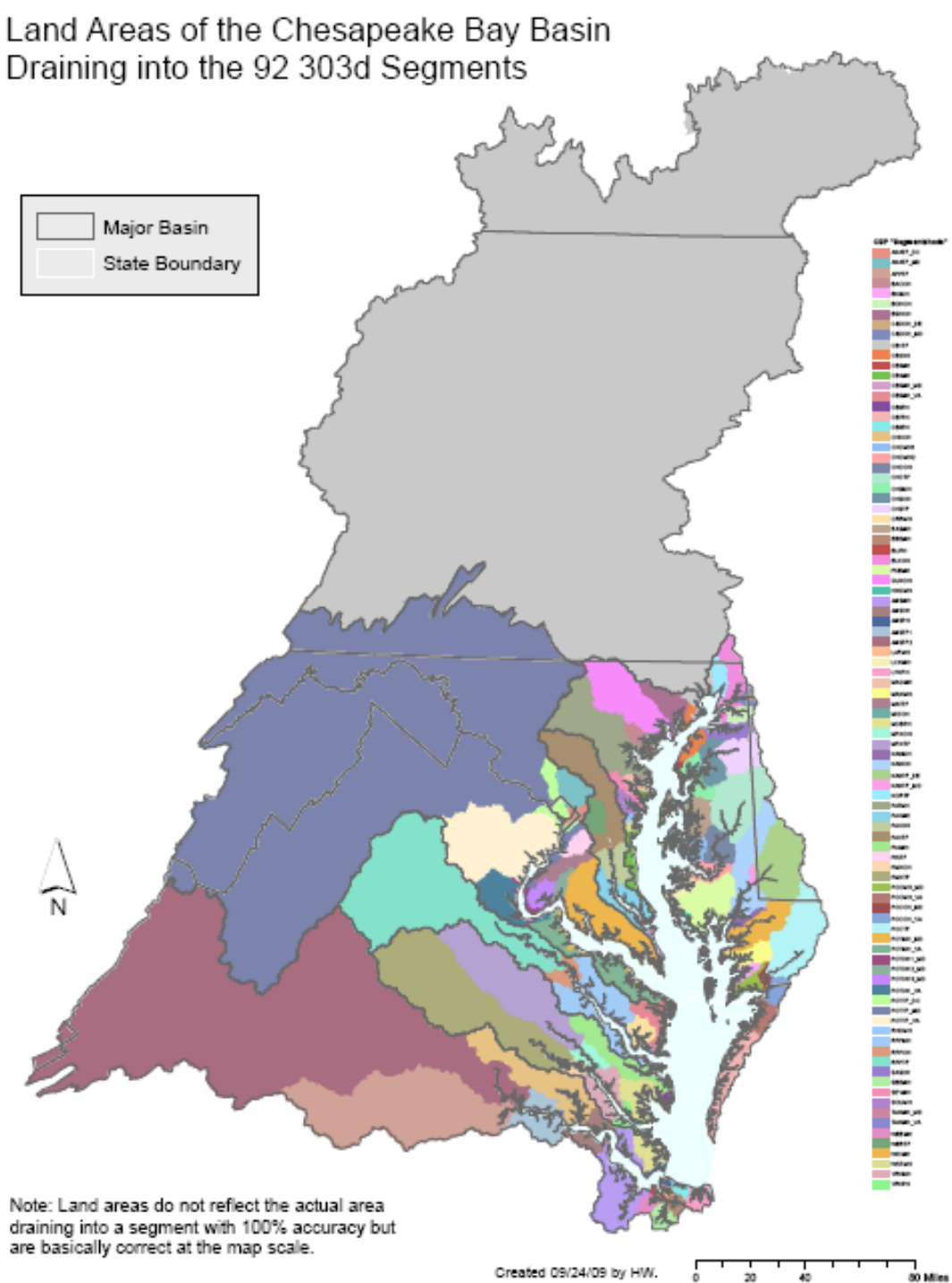
4. Account for Growth through Reserve Allocations or Approved Offsets

5. Contingencies for Failed of Delayed Implementation

6. Appendix with interim and final reduction targets and schedule for each segmentshed/county, by sector
   - Hits interim and final target, where final target achieves water quality standards
   - With reference to dates for key actions discussed in body of WIP
   - Report targets using provided output format

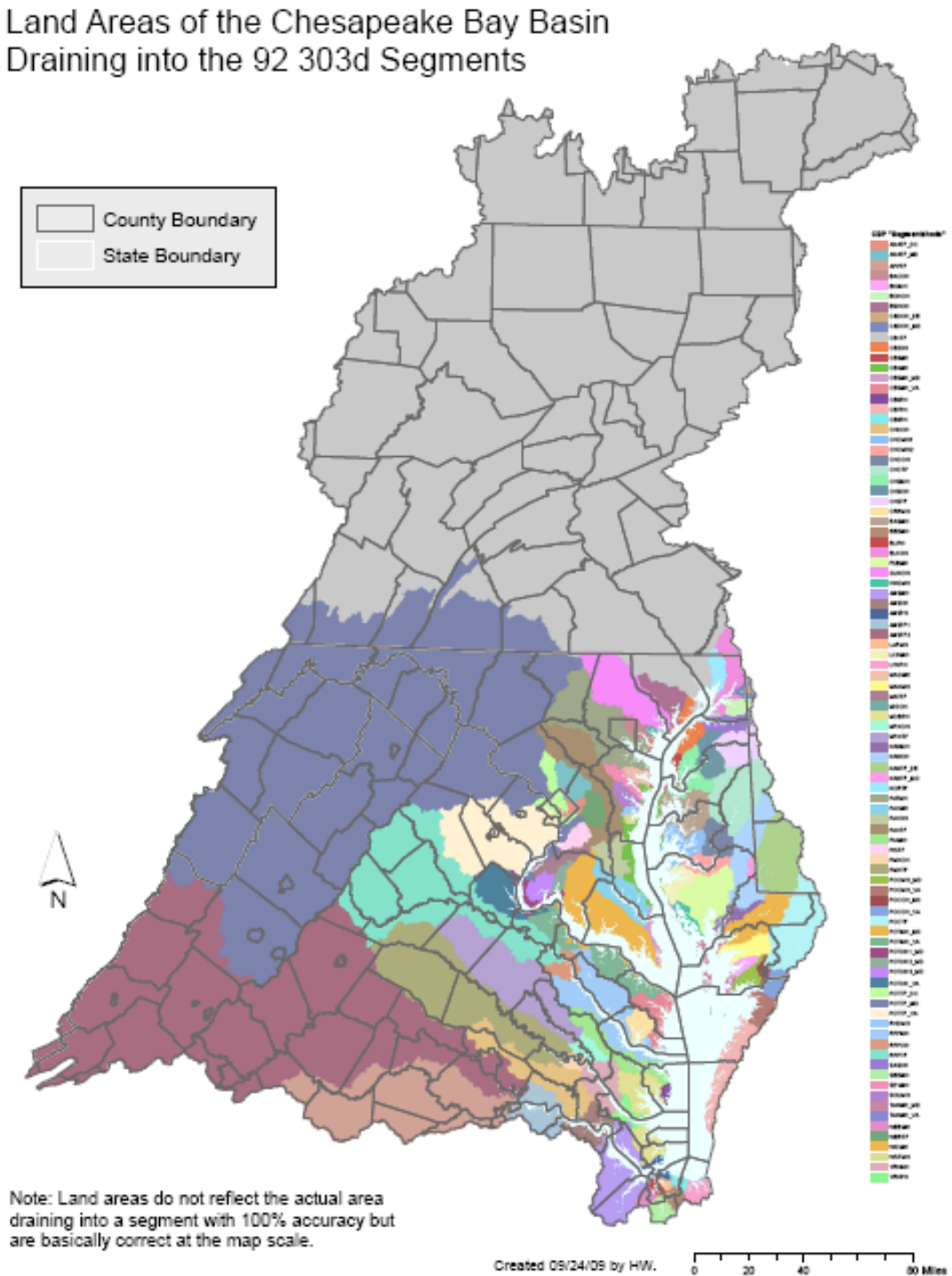
Scale of TMDL WLAs and LAs

- WLAs and LAs for 92 303(d) segments of tidal Bay, tributaries and embayments
- Tidal States, DC: Individual WLAs as data allows; sector LAs sector
- Non-Tidal States: Aggregate WLAs and LAs; EPA retains right to issue individual WLAs
- Separate LA for direct atmospheric N deposition to tidal waters
- Assumed LA for atmospheric N deposition to watershed



Scale of WIP Targets

- Based on PSC recommendation, EPA puts forward major basin/ jurisdiction nutrient targets
- States and DC subdivide interim and final targets by source sector, NPDES status (WLA or LA), segment drainage, and county
- Source sector, NPDES status, segment drainage used to establish draft, final Bay TMDL WLAs and LAs
- County targets used to engage local decision-makers



Reasons for Plans

- CWA Section 117
  - Develop and begin to implement management plans to restore the Bay
- Reasonable Assurance
  - For TMDLs with wasteload and load allocations
  - “Heightened expectations” in 9/11/08 letter
- Executive Order 13508
  - New era of performance and accountability
  - Introduces Clean Water Accountability Programs

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Role in TMDL Process

Fall 2009

EPA sends Guide-lines letter to PSC

EPA sends Conse-quences letter to PSC

Major basin jurisdiction loading targets

Watershed Implementation Plan devt.

Components of Clean Water Accountability Programs

November 2009 – June 2010

Plan details into draft WLAs & LAs

Chesapeake Bay Watershed Nitrogen Load Allocations

Bay Segment	State	Nutrient	Agriculture Allocated Load (lbs/yr)	Forest Allocated Load (lbs/yr)	Other NPS Allocated Load (lbs/yr)	Atmospheric Allocated Load (lbs/yr)	Urban/Res /Road Allocated Load (lbs/yr)	PA Gross Load (lbs/yr)	NY Gross Load (lbs/yr)	WV Gross Load (lbs/yr)
POTMH	MD	Nitrogen	1000	500	200	300	200			
POTMH	VA	Nitrogen	500	250	100	150	100			
POTMH	PA	Nitrogen						200		
POTMH	NY	Nitrogen							50	
POTMH	WV	Nitrogen								10

Final TMDL Established

December 2010

2011 – 2025

2-year milestones, reporting, modeling, monitoring

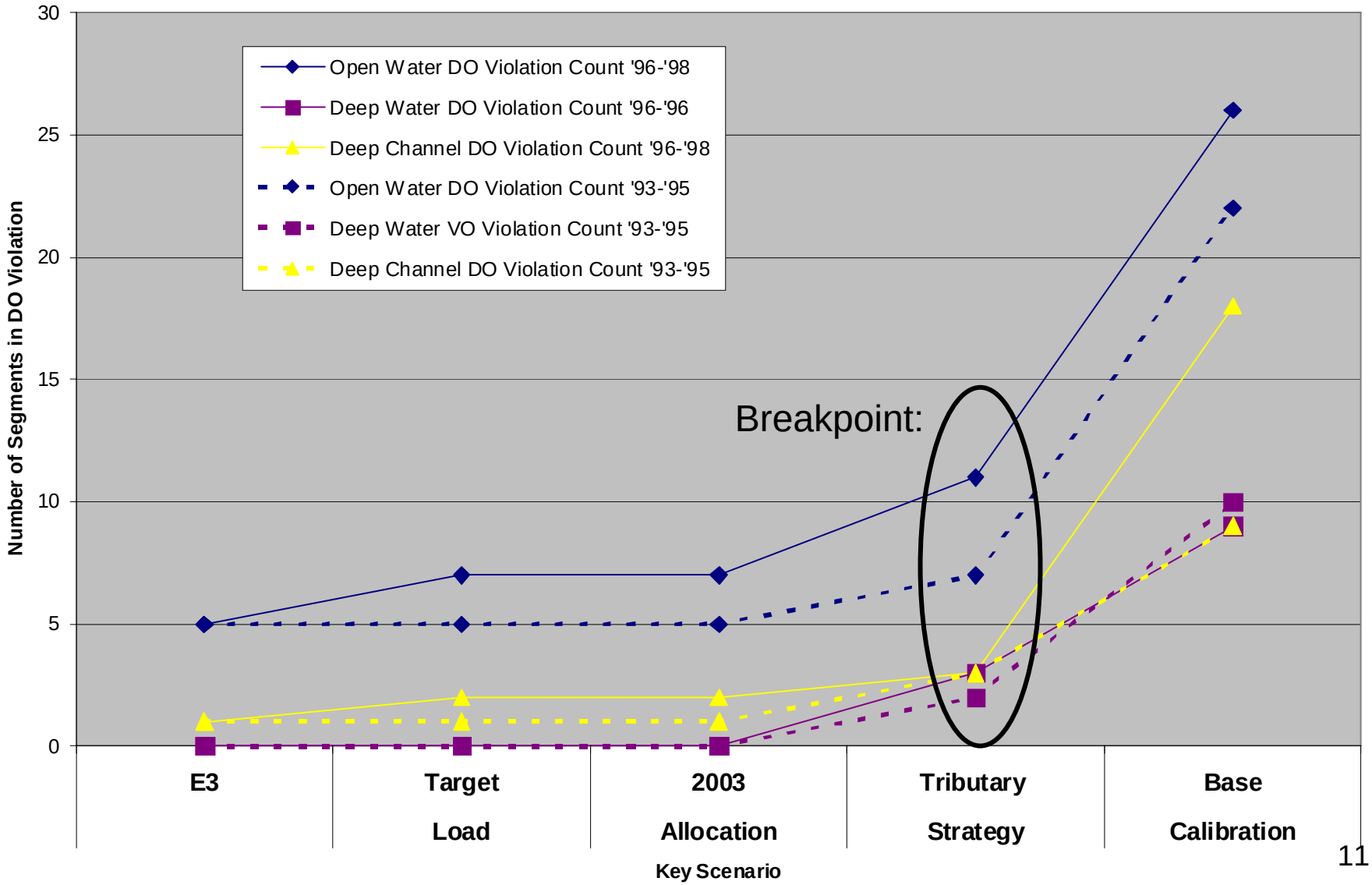
Revised Interim Target Load

- Concern with achieving basinwide tributary strategy load by 2017

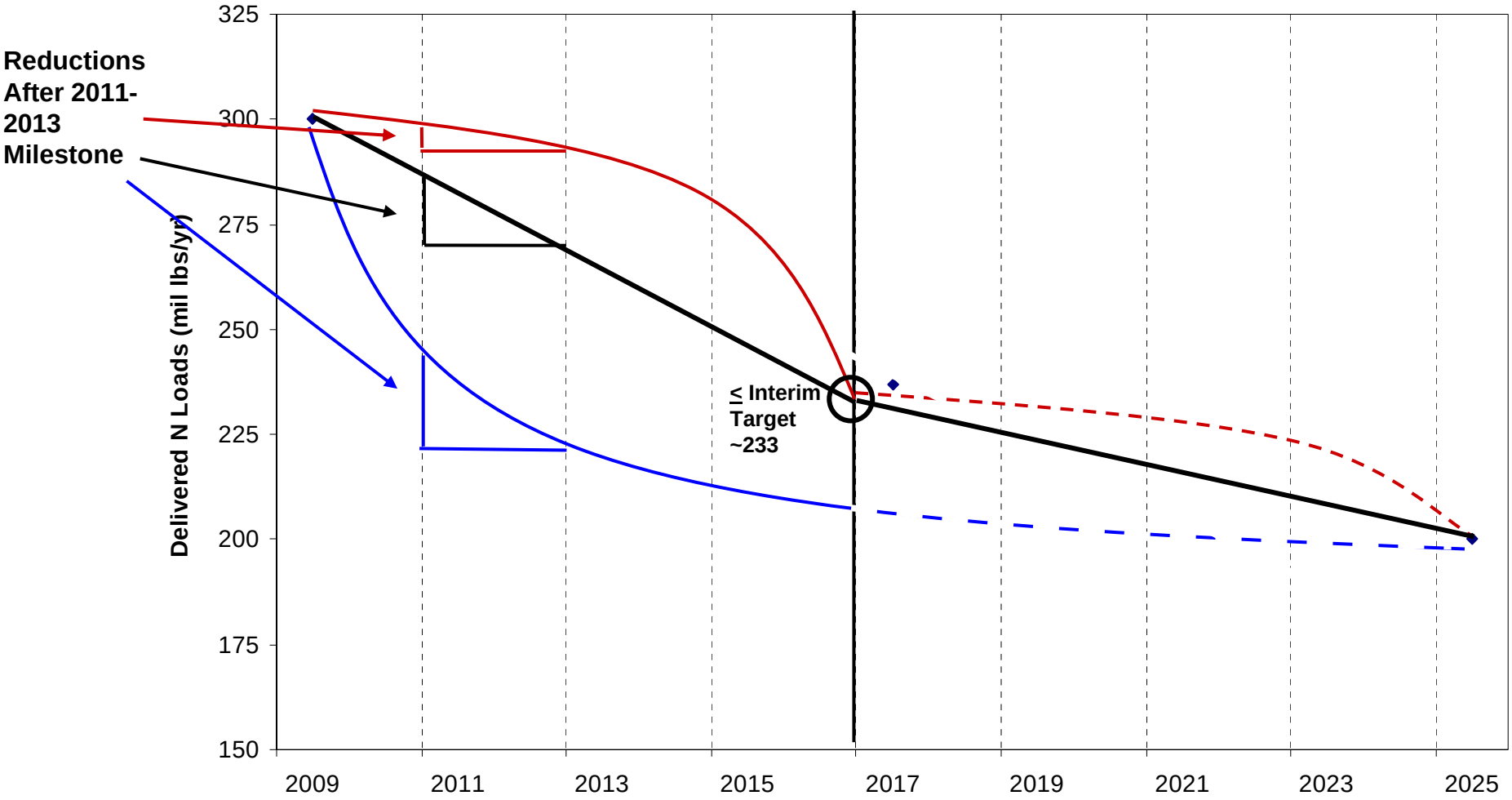
- Phase 5.2 scenarios indicate that tributary strategy load no longer midpoint between basinwide current and draft target
  - Tributary strategy scenario close to attaining D.O. croiteria

- Propose interim target as breakpoint in percent volume in nonattainment
  - Stoplight plots indicate break around mil lbs/yr N and 21.1 mil lbs/yr P
  - Corresponds to 67% between estimated current and target loads

DO Violation Counts for the ’96-’98 and ’93-’95 Critical Periods Based on Ph 5.1 Scenarios



Revised Interim Loading Target

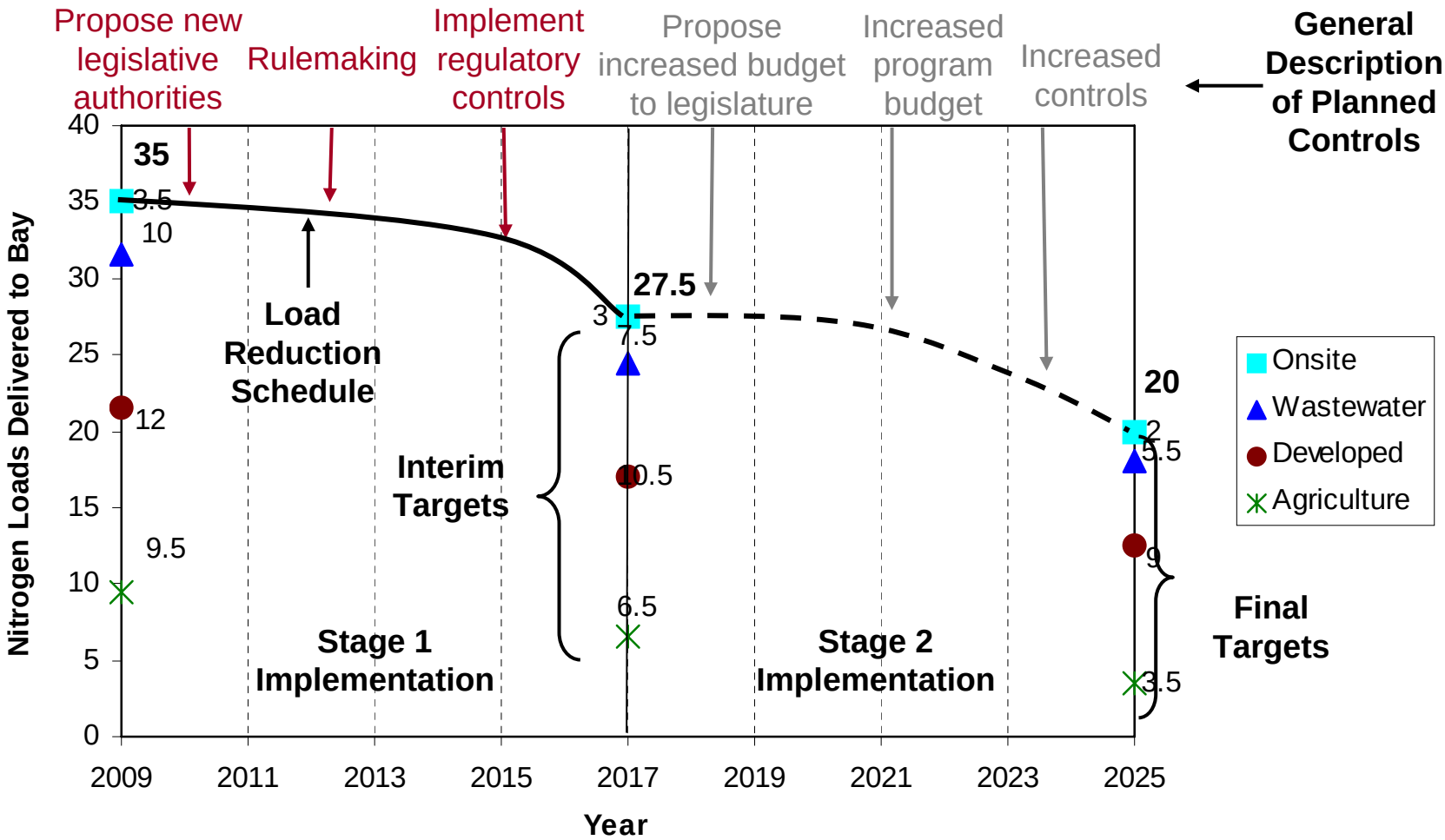


Staged Implementation

- EPA recognizes that Bay TMDL will involve "staged" and "adaptive" implementation (EPA, 2006)
  - Staged: TMDLs in which implementation occurs in several distinct stages
  - Adaptive: Iterative implementation process that makes progress toward water quality goals while using any new data and information to reduce uncertainty and adjust implementation activities

- EPA requires less details on Stage 2 implementation if states commit to update Watershed Implementation Plans by no later than 2017
  - To demonstrate assurance that final TMDL will be achieved, need some indication of actions that will result in necessary load reductions
  - Propose potential actions that will result in necessary control to meet final load targets
  - EPA accepts that milestone targets for major basin/jurisdiction subject to change as long as overall water quality goals met
  - Assurance includes jurisdictions' commitment to update Plans and develop and implement milestones through 2025; EPA's commitment to assess future plans, milestones, and progress

Example: Projected N Delivery by Source Sector



** Note: Numbers are illustrative and do not indicate basin/jurisdiction and sector current, tributary strategy, or target loads **

- Attaining specific load reductions by the interim target would be required
- Jurisdiction would determine desired reduction schedule to meet load reduction
- EPA would evaluate milestones based on whether consistent with reduction schedule

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Schedule

(Assumes December 2010 Completion per PSC request; Obligated to complete by May 1, 2011)

- March 2010: Submit preliminary Watershed Implementation Plans
  - EPA to verifies would meet water quality standards and uses to inform establishment of draft TMDL
  - Some relief because EPA does not need to run input deck of specific controls through models
  - Chesapeake Bay Program support
- May 2010: Submit draft Watershed Implementation Plans
- June 2010: Draft TMDL and supporting documentation released for 90-day public comment
- November 2010: Submit final Watershed Implementation Plans
- December 2010: Final TMDL established
- January 2012: First Clean Water Accountability Program 2-year milestone begins

Format for Output

- See Table B1: Format for Submitting Watershed Implementation Plan Outputs to EPA for Verification (p22 of draft guidelines)

Feedback Requested

- What questions remain?
- What scenario outputs would you want to assist you in the plan development process?
- Are there additional ways that EPA could help you engage with local partners to develop Watershed Implementation Plans?

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Additional Resources

References

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- Chesapeake Executive Council (2009). *Executive Council Sets New Goals for Reducing Bay Pollution*. May. http://www.chesapeakebay.net/news_ec2009.aspx
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- EPA (2009). "Chesapeake Bay TMDL Framework." Presentation by Bob Koroncai, Region 3, to the Chesapeake Bay Program Water Quality Steering Committee. April 6. http://archive.chesapeakebay.net/calendar.cfm?eventdetails=10096
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- U.S. EPA (2009).*The Next Generation of Tools and Actions to Restore Water Quality in the Chesapeake Bay: A Draft Report Fulfilling Section 202(a) of Executive Order 13508. September 9.* <http://executiveorder.chesapeakebay.net>.
- Kaplan, R., Norton, D. 2008. Mastering the management system. Harvard Business Review, January 2008, pp. 63-77.

Microsoft Excel - CB TMDL Nitrogen Example_010809.xls

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Type a question for help

A7 POTTF

Chesapeake Bay Watershed Wasteload Allocations

Bay Segment	State	Nutrient	PERMIT	Allocated Load (lbs/yr)	Allocated Concentration (mg/L)	Permit Type
POTTF	MD	Nitrogen	MD#######1	52	1.0	POTW
POTTF	MD	Nitrogen	MD#######2	70	1.0	POTW
POTTF	MD	Nitrogen	MD#######3	100	1.0	MS4
POTTF	MD	Nitrogen	Aggregate WLA	200	8.0	Non-significant WLA Aggregate
POTTF	DC	Nitrogen	DC#######1	200	1.0	POTW
POTTF	DC	Nitrogen	DC#######2	200	1.0	MS4
POTTF	DC	Nitrogen	Aggregate WLA	300	8.0	Non-significant WLA Aggregate
POTTF	VA	Nitrogen	VA#######1	20	1.0	POTW
POTTF	VA	Nitrogen	VA#######2	17	1.0	POTW
POTTF	VA	Nitrogen	Aggregate WLA	200	8.0	Non-significant WLA Aggregate
POTTF	PA	Nitrogen	Gross WLA	25	NA	Gross WLA for PA
POTTF	NY	Nitrogen	Gross WLA	0	NA	Gross WLA for NY
POTTF	WV	Nitrogen	Gross WLA	5	NA	Gross WLA for WV

Annual TMDL | WLAs | LAs

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Microsoft Excel - CB TMDL Nitrogen Example_010809.xls

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Chesapeake Bay Watershed Nitrogen Load Allocations

Bay Segment	State	Nutrient	Agriculture Allocated Load (lbs/yr)	Forest Allocated Load (lbs/yr)	Other NPS Allocated Load (lbs/yr)	Atmospheric Allocated Load (lbs/yr)	Urban/Res /Road Allocated Load (lbs/yr)	PA Gross Load (lbs/yr)	NY Gross Load (lbs/yr)	WV Gross Load (lbs/yr)	Comm
POTTF	MD	Nitrogen	1000	500	200	300	200				
POTTF	VA	Nitrogen	500	250	100	150	100				
POTTF	DC	Nitrogen	5	10	100	100	2000				
POTTF	DE	Nitrogen	0	0	0	0	0				
POTTF	PA	Nitrogen						200			
POTTF	NY	Nitrogen							0		
POTTF	WV	Nitrogen								25	

Annual TMDL / WLAs \ LAs /

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Ready NUM

Elements of Clean Water Accountability Programs

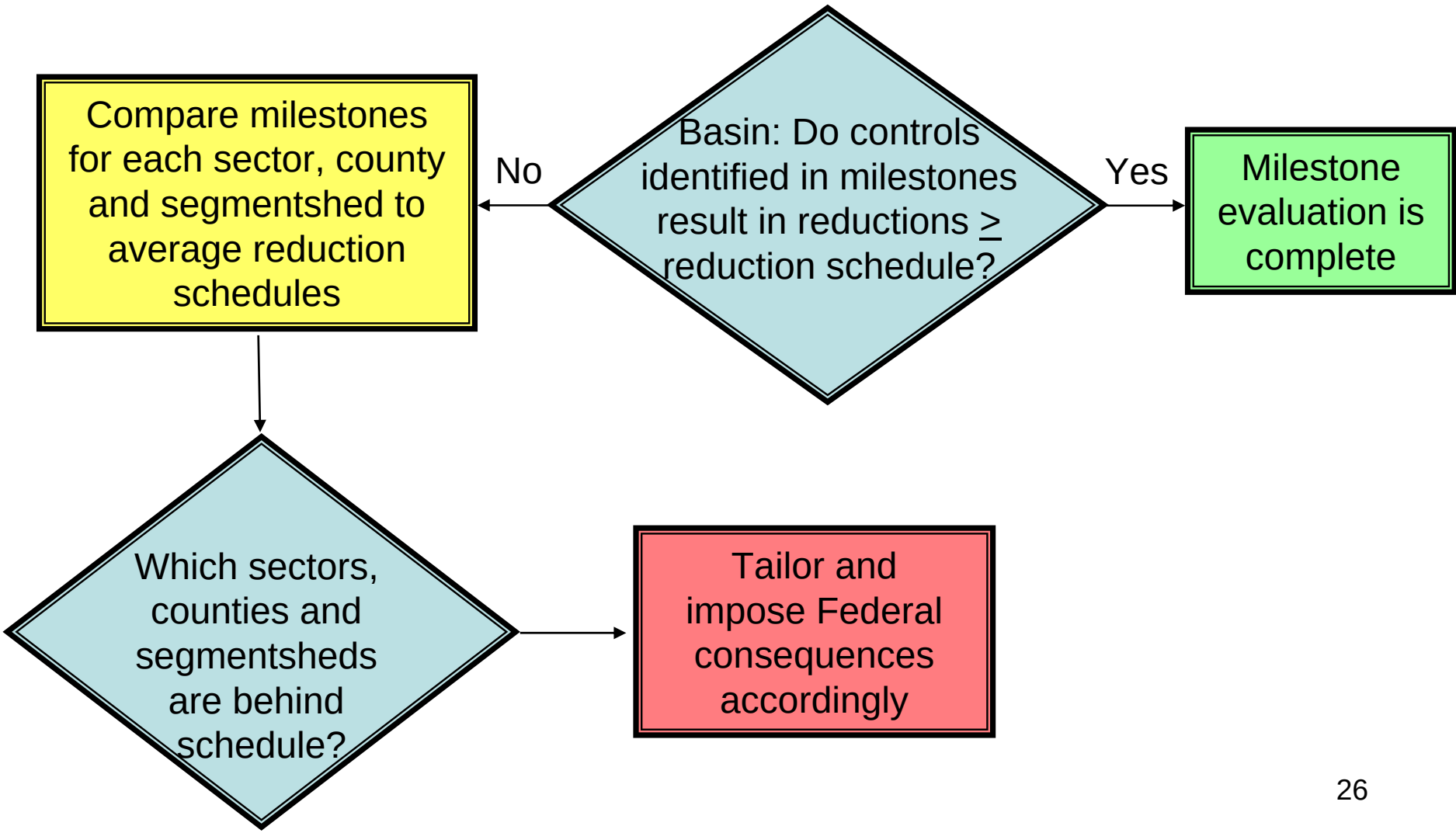
- Upfront plans focus on reduction targets (interim, final) and schedule
  - By impaired segment drainage area
  - By county
  - By sector
- Upfront plans identify existing capacity and commit to fill capacity gaps through program enhancements, with dates for key actions
- Defer identification of specific controls to 2-year milestones
  - By impaired segment drainage area
  - By county
  - By sector
- Reasonable assurance demonstration includes EPA's commitment to evaluate milestones and impose consequences through ongoing accountability framework

Planned Program Enhancements and General Description of Pollution Controls Must Include:

- Enforceable or binding commitments that controls will be implemented and maintained
- Permits or contracts with quantifiable limits and milestones consistent with wasteload and load allocations
- Estimate necessary resources (funds, technical assistance, permit reviewers, inspectors) to support implementation and maintenance of practices
- Historic compliance and participation rates, and measures and authorities to increase rates to achieve necessary reductions
- Process for reporting, tracking and verifying practices

	Tributary Strategy	2009 State 2-Year Milestones	Upfront Plans	Future 2-Year Milestones
1) Scale of interim and final load target	Basin- and Sector-Specific	Statewide	Basin, “Segmentshed”-County and Sector-Specific	Basin, “Segment”-County and Sector-Specific
2) Bay model % reductions by sector in each “segmentshed” and county			✓	
3) Load reduction schedule that meets interim and final targets (**Note**: Primary link between Upfront Plans and 2-Year Milestones to evaluate whether adequate progress)			✓	✓
4) Identification of program gaps			✓	
5) Program enhancements (legal, funding, etc) and schedule to fill		✓	✓ (with schedule)	✓
6) Contingencies		Somewhat	✓	✓
7) Account for growth by setting aside allocations or specifying how will offset			✓	✓
8) General description of planned pollution controls	✓		✓	
9) Quantitative planned BMP controls	✓	✓		✓
10) Quantitative planned PS controls	✓	✓	✓	✓
11) County/segmentshed location of BMP’s				✓
12) Uniform, transparent and consistent tracking and reporting requirements			✓	✓

Assessing Proposed Milestones



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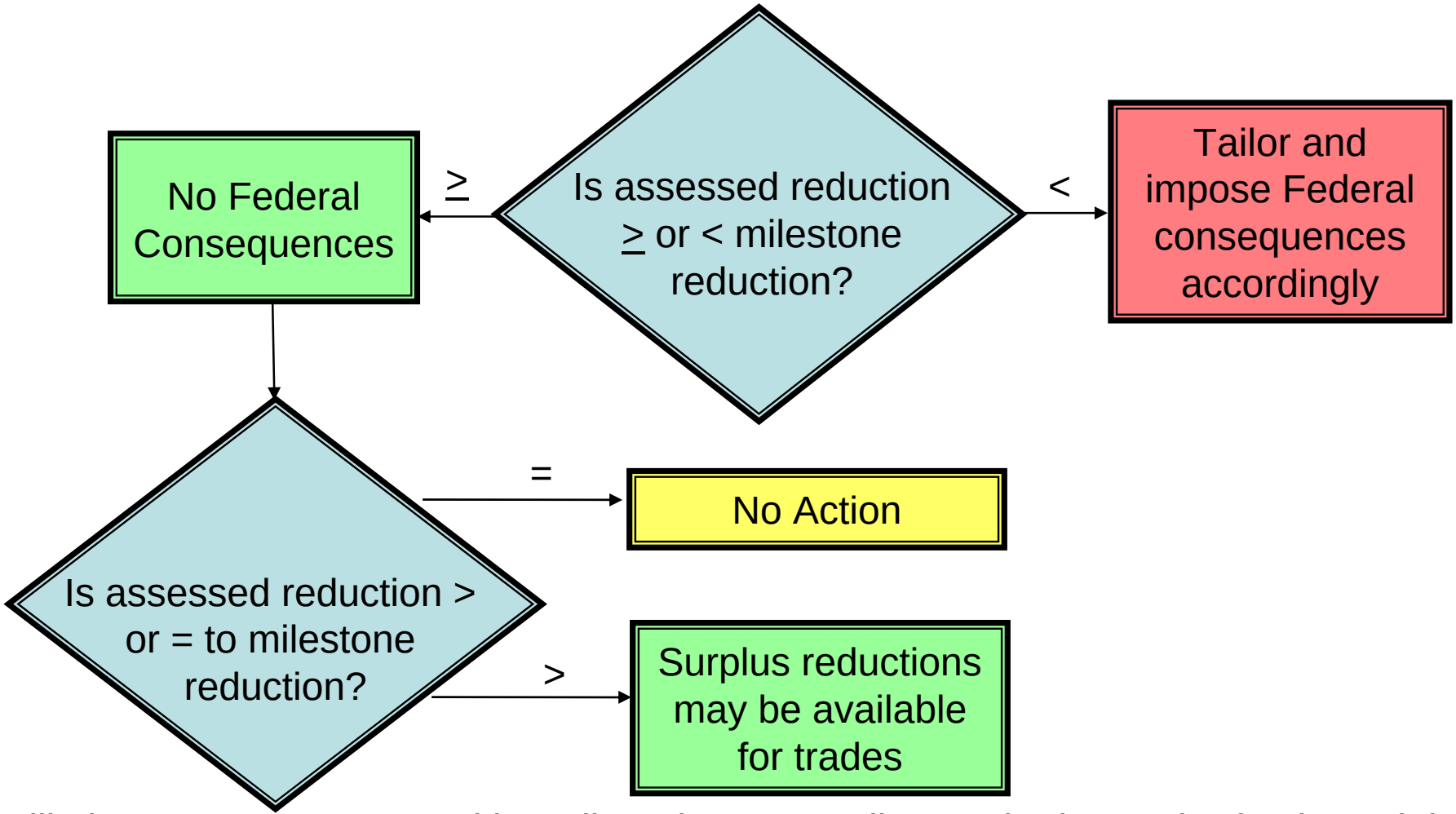
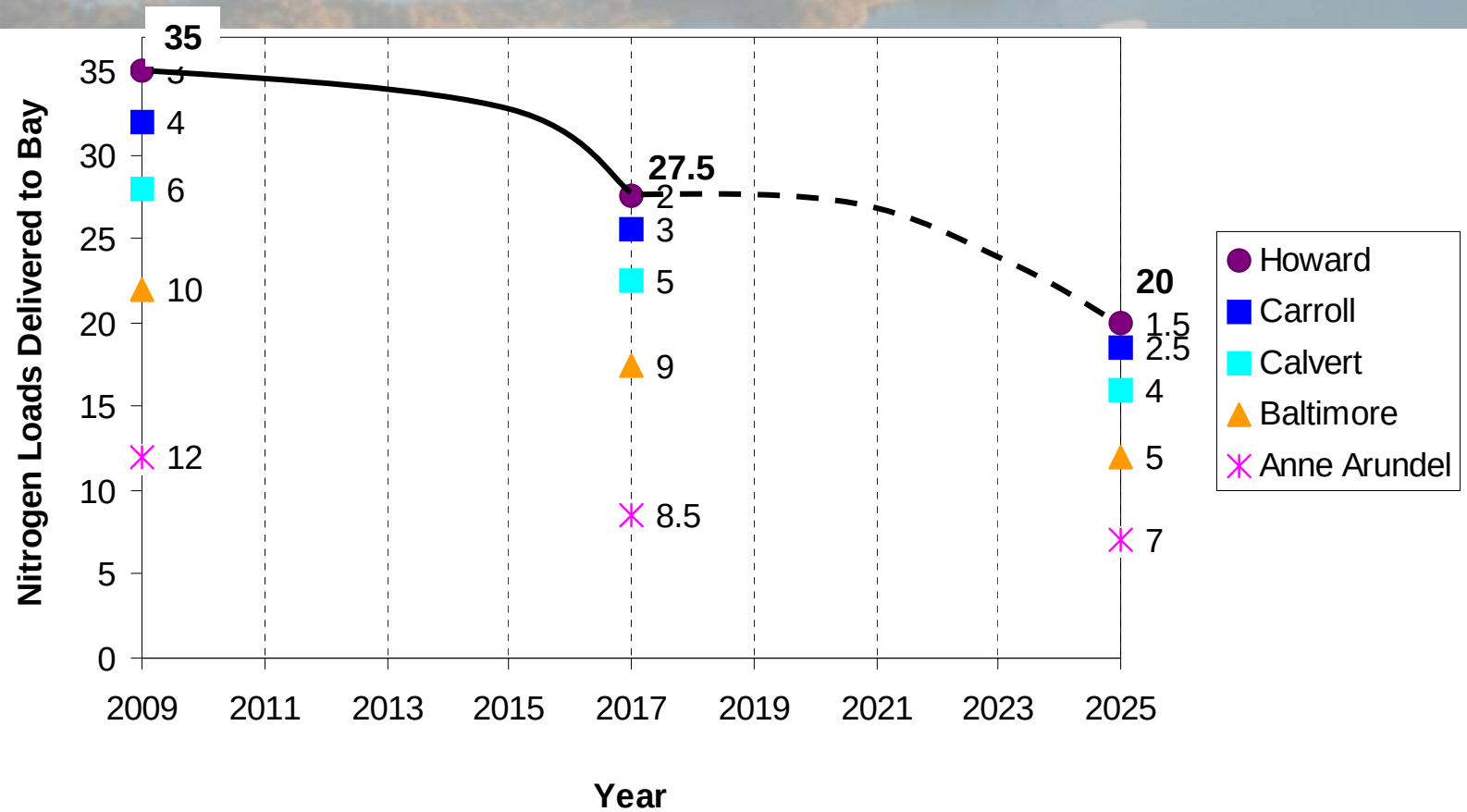
Assessing Milestone Progress



Will also assess progress with realigned water quality monitoring and refresh models with updated data (land use, agriculture census, etc.)

Example: MD W. Shore Projected N Delivery by County



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- Attaining specific load reductions by the interim target would be required
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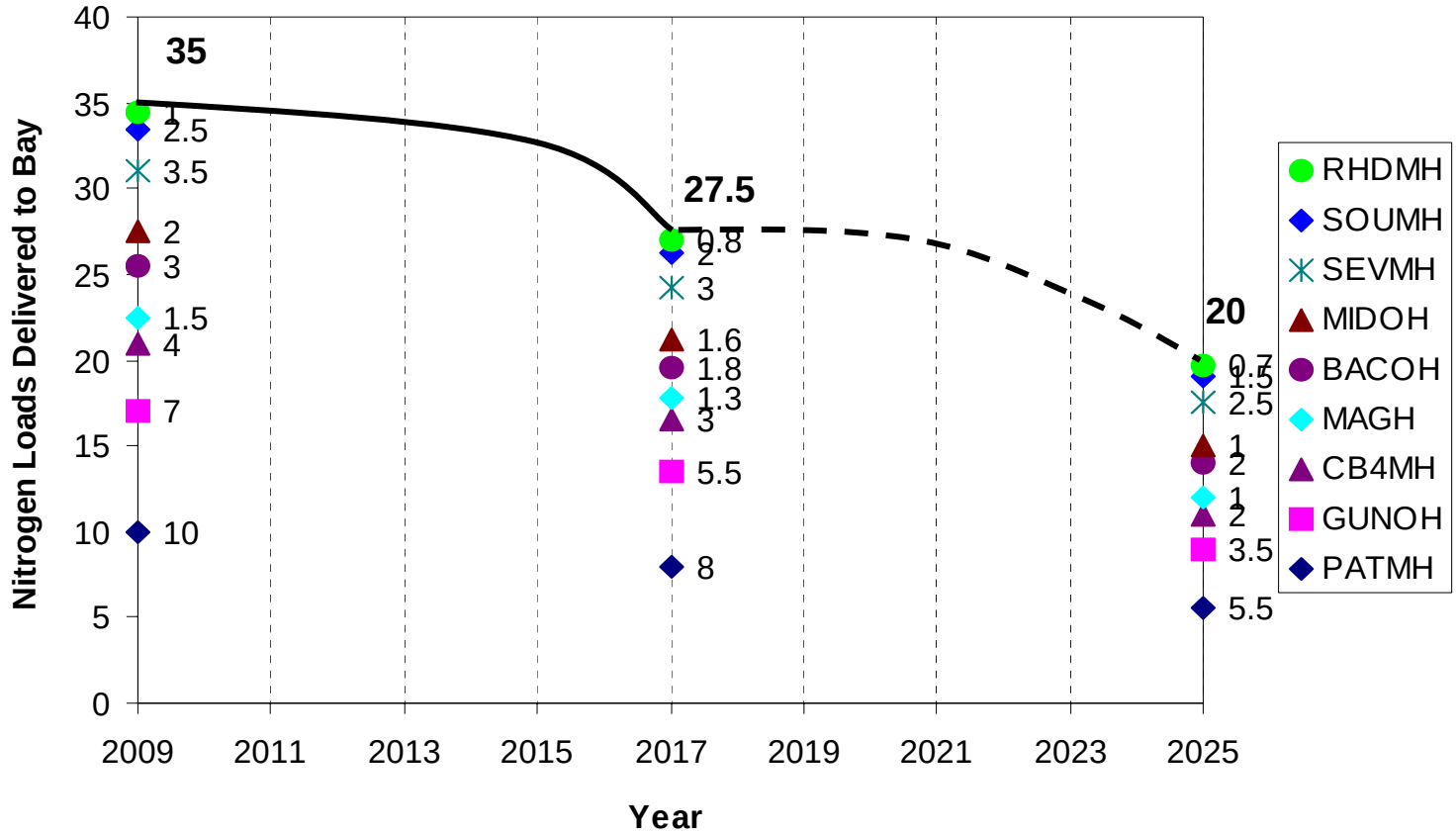
Example: MD W. Shore Projected N Delivery by "Segmentshed"



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