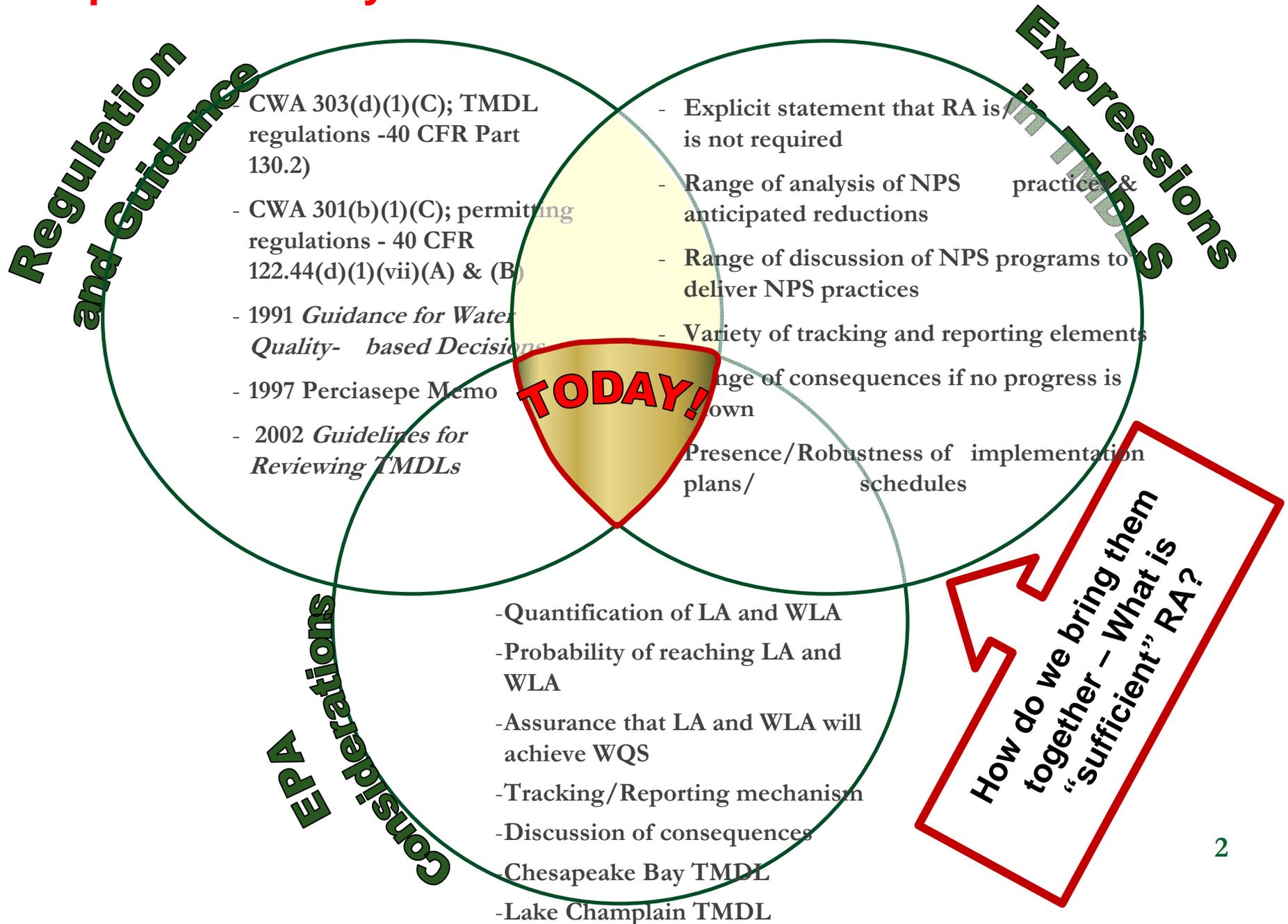

Reasonable Assurance –
Achieving Water Quality
Standards through TMDLs

April 2011

Purpose of Today's Discussion



What is reasonable assurance?

- Reasonable Assurance that NPS reductions will occur
 - Demonstration that nonpoint source reductions are expected to occur
 - ‘Roadmap’ of what and how NPS reductions will occur over time
- Applies when setting allocations to NPS and PS for ‘mixed-source’ TMDLs
 - Necessary to determine that the TMDL, including WLA and LA, have been established at a level necessary to implement WQS

EPA Guidance on reasonable assurance

- 1991 “Guidance for Water Quality-Based Decisions: The TMDL Process”
 - “In addition, before approving a TMDL in which some of the load reductions are allocated to nonpoint sources in lieu of additional load reductions allocated to point sources, there must be specific assurances that the nonpoint source reductions will in fact occur.”
 - “In order to allocate loads among both point and nonpoint sources, there must be reasonable assurances that nonpoint source loads will in fact be achieved. Where there are not reasonable assurances, under the CWA, the entire load reductions must be assigned to point sources.”
 - “There must be assurances that nonpoint source control measures will achieve expected load reductions in order to allocate a wasteload to a point source with a TMDL that also allocates expected nonpoint source reductions.”

EPA Guidance on reasonable assurance (cont'd)

- 1997 Perciasepe memo
 - In watersheds impaired by a blend of point and nonpoint sources....where any wasteload load allocation to a point source is increased based on an assumption that loads from nonpoint sources will be reduced, the State must provide reasonable assurances that the nonpoint source load allocations will in fact be achieved.

- 2002 “Guidelines for Reviewing TMDLs Under Existing Regulations”
 - When a TMDL is developed for waters impaired by both point and nonpoint sources, and the WLA is based on an assumption that nonpoint source load reductions will occur, EPA's 1991 TMDL Guidance states that the TMDL should provide reasonable assurances that nonpoint source control measures will achieve expected load reductions in order for the TMDL to be approvable. This information is necessary for EPA to determine that the TMDL, including the load and wasteload allocations, has been established at a level necessary to implement water quality standards.

Legal basis for reasonable assurance

- The *implicit* requirement for RA flows legally and logically from the following two statutory and regulatory provisions: 303(d)(1)(C) and 122.44(d)(1)(vii)(A)&(B)
- CWA 303(d)(1)(C)
 - Basic TMDL requirement is that they be "***established at a level necessary to implement the applicable water quality standards.***"
 - Requirement applies both to the "total" assimilative load and to the components (individually and collectively).
 - Consistent with the Preamble to the 1985 final TMDL rule
 - Keeps the TMDL equation "honest"
 - Gives TMDLs their value and legitimacy as water quality planning and implementation tools

Legal basis for reasonable assurance (2)

- 40 CFR 122.44(d)(1)(vii)(A)&(B) -- Permit effluent limits:
 - Must be "derived from, and compl[y] with" WQS
 - Must be "consistent with" the assumptions and requirements of a TMDL's WLA

- The only way an effluent limit can meet both requirements is for the WLA to be set at a level that (in combination with the other WLAs and LAs in the TMDL) implements WQS
 - Without RA to assure LA(s), there would be little basis to assume that an effluent limit based on a WLA(s) would be set at a level to meet WQS

- TMDL is a "zero sum" game
 - Components of a TMDL need to "add up" and meet WQS

Range of RA Expressions in TMDLs

- RA is not mentioned in the TMDL at all
- Explicit statement that RA is not needed because no increase in permitted limit or because PS is at CEOP
- WLA drives the allocation and RA includes some general discussion such as:
 - reference to the CWA 319 program
 - brief general discussion of ongoing NPS control programs and at times, available funding opportunities
 - Description of possible programs for implementation: local groups, state, and federal programs
- WLA drives the allocation and RA includes more detailed discussion specific to the expected reductions needed:
 - Analysis of NPS practices and expected loading reductions;
 - Implementation plan with detailed description of NPS sectors, discussion of BMPS, funding, and monitoring
 - Discussion of programs, implementation approach, time frame, review process, responsible parties, and monitoring strategy
 - Discusses funding options, measures, effectiveness of measures, schedule, milestones, tracking/assessing, programs, adaptive management approach, and consequences
- Detailed support for allocations
 - Quantification of NPS loads by sector, detailed scenarios of all loads modeled over time, specific BMPs & reductions quantified, current and future programs, schedule with interim milestones, tracking, monitoring, consequences

Increased interest in reasonable assurance → Legal challenges to TMDLs or permits

- Increased interest in environmental results under the CWA
 - NPS challenge

- Lake Champlain TMDL litigation → Lack of sufficient RA complaint
 - EPA remanded the TMDL approval, later disapproved TMDL due to inadequate RA and MOS
 - 'Unable to identify any programs or activities in existence at the time of the TMDL submittal that provide assurance that nonpoint source reductions would occur, and that anticipated reductions would be sufficient to meet the TMDL load allocations'

- Friends of Pinto Creek ('Carlota') decision by 9th Circuit Court
 - Reliance on the TMDL allocation is not enough without a showing that the allocations to other sources 'represent the amount of pollutants currently discharged' or that there is a 'plan that will effectuate these load allocations...'
 - If PS will not attain WQS, 'then a permit cannot be issued unless the state or [new discharger] agrees to establish a schedule to limit pollution from a nonpoint source or sources sufficient to achieve water quality standards.'

- CBF NOI – add what it said about RA

- Permit challenges due to reliance on TMDLs with inadequate RA
 - Successful challenge in the Montpelier WWTF case before the Vermont Environmental Court.

Environmental benefits of demonstrating reasonable assurance

- More confidence WQS will be achieved (due to more meaningful LAs and WLAs)
- More implementable TMDLs (due to detailed source assessment, better BMP analysis)
- More trackable water quality results (due to schedule, milestones and process for assessing NPS progress)
- Less vulnerable TMDL approvals
- Less vulnerable permits
- Opportunities to integrate CWA and other programs

Resource implications

- Pace of TMDL development likely to be affected
 - Additional workload/skills needed in TMDL development or approval when documenting RA
 - Need more information/modeling on NPS loads by sub-categories, NPS controls and associated load reductions
- Requires increased resources for permits, TMDL, NPS and monitoring programs in the states and EPA

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- TMDL Program at a critical juncture?
 - Consent decrees/Settlement Agreements are winding down
 - Type of litigation is changing – more focus on TMDL quality
 - Opportunity for the program?

Note: The following slide will be shown on the screen during the discussion period to guide the discussion.

Discussion Questions

- What do you think are the key steps, essential components of RA?
- How would you approach developing RA?
- What are the main challenges and what are some ways overcoming them?
- How would RA affect cost and pace?
- How would RA influence setting state priorities for implementation of TMDLs?

APPENDIX

Listing of Impaired Waters

- Over 40,000 listed segments with one or more impairments
- Approximately 71,000 waterbody-pollutant combinations reported
 - Indication of TMDLs that will need to be completed
 - At least 45% (~32,000 TMDLs) will be for waters impaired by both NPS and PS, and thus subject to a demonstration of RA.
- Top causes of impairment
 - Pathogens: 15%
 - Metals (other than Mercury): 10%
 - Nutrients: 10%
 - Organic enrichment/oxygen depletion: 9%
 - Sediment: 9%
 - Polychlorinated Biphenyls (PCBs): 9%

* Data as of December 2010

Progress in Restoring Waters

- 46,817 TMDLs developed and approved (cumulative)
- Progress made especially on controlling PS under NPDES permit program
 - TMDL spot-checks in five regions found almost all of the states had permits implementing TMDLs in the checked samples
- But more work needs to be done
 - About only 3,000 waterbodies reattaining WQS
 - Only 9,016 causes of impairment removed
 - On average, 130 listed waters have been moved from Category 5 (impaired) to Category 1 (meeting all WQS) per year

* Data as of December 2010