

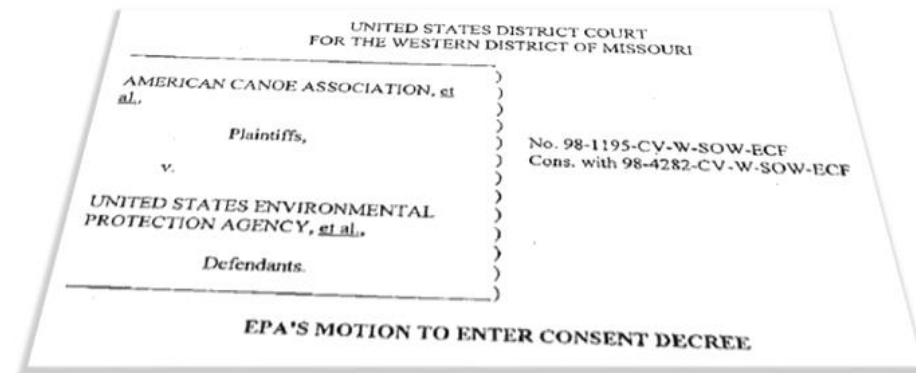


Low Dissolved Oxygen TMDL Revisions

Mike Kruse, Water Protection Program

2001 CONSENT DECREE

- American Canoe Association, et al. v. EPA
- Primarily 1998 303(d) List
- TMDLs to be completed by Dec. 31, 2010



- Several waters impaired by “Unknown” and Low Dissolved Oxygen conditions

SAVED THE BEST FOR LAST?

- “Low Hanging Fruit” first
- Competing priorities (e.g., triennial review, UAAs)
- Allow time for data collection



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**17 low dissolved oxygen TMDLs
developed in 2010. The last year
of the consent decree!**

THE 2010 LOW DO TMDLs

- Focused on reducing nutrients (not attaining DO criterion)
- Used the load duration curve approach
 - Advantages...
 - Relatively simple, quick!
 - Same targets apply to point and nonpoint sources
 - Addresses all flows and critical conditions
 - Problems...
 - No flow data (flow modeled, but not well)
 - Didn't consider other contributing factors
 - “Unachievable” targets = no action!

Total Phosphorus target as low as 0.007 mg/L

REVISING THE TMDLS

- Identify where the original TMDLs could be improved
- Identify new or more representative data
- Critical conditions... summer low flows
- More complex modeling (QUAL2K) and site-specific considerations



Results: Significant (but achievable) nutrient reductions, but also reductions needed for BOD, ammonia, and TSS

LESSONS LEARNED

- Be careful what you wish for...
 - Higher nutrient targets, BUT lower BOD and ammonia
- Working with your Region early may save time later
- What was good enough 10 years ago, might not be today
- Plan ahead. Get the right data.
- Every stream and watershed is unique; And therefore so is every QUAL2K model

QUESTIONS?



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