Potential Implementation Discussions

Water Quality Standards

Regional Numeric Indicators and Site-Specific Numeric Criteria

- Advantages and disadvantages of phased implementations
- Should headwaters (Category 1 Waters) be immediately prioritized for numeric criteria?
- What process should be used for prioritization of site-specific criteria efforts elsewhere?

Development of Site-Specific Standards

- Empirical Approaches
- Mechanistic Models
- Consideration of Multiple Lines of Evidence

Monitoring and Assessment

Identification of Nutrient-Related Impairments

- Rotating Basin and Tiered Monitoring Approaches
- Development and Implementation of Nutrient-Specific Assessment Approaches
- Bioconfirmation: Integration of Numeric Indicators with Biological Response Information
    - Site-specific demonstration of deleterious nutrient effects

Potential Site-Specific Modifications to Response Thresholds

- Development of Site-Specific Standards
- Determination of "Best Attainable" Conditions
    - Irreversible Conditions
    - Recovery Potential
    - Natural Confounding Factors (i.e., slope, channel shading, lake depth/residence time)

Protection of Downstream Resources

- "Near Field" and "Far Field" effects
- Moving upstream to Address Problems

Development and Implementation of Watershed Nutrient Reduction Strategies

A Collaborative Process Framework

- Assuring Continual and Iterative Progress
- Development of Collaborative Teams: Getting the Right People to the Table
- Combining Resources
    - Water quality trading

- Statewide Prioritization Processes
  - Incorporate with NPS funding schedule?
- Accounting for Watershed-Specific Situations
  - Relative Contribution of Different Sources
  - Relative Ability to Address Problems
- Accountability Concerns
- How to provide short- and mid-term regulatory certainty to partners?

Required and Optional Elements of Nutrient-Reduction Strategies

- Stormwater Plans
- Non-Point Source Reduction Strategy
- Numeric Criteria Implementation
- Adaptive Management Implementation Approaches
- Monitoring and Progress Reports

Addressing Non-Point Sources—[Darwin Sorensen] This is the most egregious area by virtue of its scope and controversy over who is responsible to pay

- Challenges and Opportunities with Identifying Problem Areas
  - Nearly every stream, lake and reservoir outside of National Forest lands and some within, have problems at some level.
  - The question is, can we develop or find legitimate policy to blanket all of this while focusing resources on the worst problem areas?
  - There is no crisis or public outcry to bring legitimacy. Fishing is mostly good; drinking water is safe and cheap; people waterski and swim in eutrophic reservoirs, have a good time and don't get sick (usually). Extensive fish kills even in eutrophic systems are infrequent.
  - Public education (not indoctrination?) holds the best hope for legitimizing the needed policy but it is slow and requires financial resources. Much has been/is being done but much more is needed.
  - Effective technology is available for most problems and is getting better. Appropriate application, in the right place, and verification of effect has been lacking.
- Appropriate Funding Mechanisms—There is nothing obvious here. Very few large scale successes nationwide.
  - WI model: 80/20 or 90/20 cost share agreement for required reductions
  - How to fund this approach? The costs for whatever approach is taken are intimidating. Most of the problems exist because of land use management legacy issues. Payment must be broad based for all but malicious or negligent, current problems. Taxes, fees? Trading is good but insufficient. Can/will Utah be innovative here?

Addressing Point Sources: UPDES Considerations

Technology-Based Permit Limits

- What limits are appropriate?
- Where should the limits apply?
  - Size of facility/size of receiving water

        - Surrounding land use
    - Assuring mid- and long-term regulatory certainty to affected facilities

Developing Nutrient-Related Permit Limits

- Use of Qual2Kw and other approaches
    - Model parameterization process
- How to address effluent dominated receiving waters?

Antidegradation Considerations

- Establishing “least degrading” alternatives
- Different Requirements for new facilities? Major upgrades?

Economic Considerations

- Variance Policies
- Determination of “Extensive and Widespread” Economic Impacts
    - Economic planning tools