



Brainstorming: Data Summary and Analysis

Regulation 85 Nutrients Management Control

Monitoring Summary

Mapping Information

- Monitoring data locations
 - u/s locations
 - d/s locations
 - effluent locations
 - additional data collection efforts (NPS)
- Critical Watersheds
- Regulation 31 application in Basin Standards (Rio Grande, Arkansas, Up/Lo Colorado)

Tabular Summary

- Compliance rates
- Summary statistics

Facilities Summary

Mapping information and tabular summary

- Facilities just required to submit effluent data
- Facilities required to submit effluent data plus u/s and d/s info
- Capacity
- Current flow
- Characterization
 - secondary treatment
 - ammonia removal
 - nitrogen removal
 - phosphorus removal

Analysis Questions (qualitative and quantitative)

Facilities

- Could facilities that are under capacity meet Regulation 85 effluent limitations in the long term? Information could include:
 - facility summary (facility capacity and current flow)
- If facilities are under capacity now are those areas expected to see significant population growth between now and 2040? Information to utilize could include:
 - utilize State of Colorado demographer's information
 - Colorado State University Rapid Watershed Assessment Tool (eRAMS)
- Do any of the facilities have an opportunity to optimize to achieve some level of nitrogen or phosphorus removal? Information to utilize could include:
 - facility summary (capacity, current flow, facility characterization information, case studies of other optimization efforts).
- Are there any new technologies or developments available to control point sources of nutrients? What is the cost/affordability of the new technology? Information to utilize could include:
 - qualitative review and report out regarding new technologies/development and their applicability for Colorado systems
- For non-DWWTF, is using only SIC 20 (food production) appropriate?
 - qualitative review of permit reporting information and monitoring information



Monitoring

- Data gaps? Information to utilize could include:
 - geospatial/mapping data
 - monitoring summary
- Are we requiring the right type of data to be collected? (TN vs. TKN + other nitrogen components) Information to utilize could include:
- Regulation 85 required monitoring results
- How long will we need to require data be collected? Information to utilize could include:
 - facility summary information
 - monitoring results
 - statistical considerations - how much is needed to tell the story?
- What is the division's feedback on the MS4 Report? Information to utilize could include:
 - MS4 report
 - Regulation 85 required monitoring results
- What improvements does the division recommend for the data submission efforts moving forward? Information to utilize could include:
 - Stakeholder feedback
- Assess if possible the magnitude, duration, and frequency of effluent limits are appropriate? Information to utilize could include:
 - seasonal analysis of data
- What can we infer about nonpoint sources? Information to utilize could include:
 - geospatial summary and monitoring data
 - division's trend site data
- Will we have enough information to remove cooling towers? Information to utilize could include:
 - Regulation 85 required monitoring data for cooling towers
- Nitrogen deposition or any new information with respect to background concentrations of nutrients?
 - upstream location information
 - landuse
 - Rocky Mountain National Park efforts

Preliminary Predictive Analysis

- Based on data received to date provide magnitude of expected nutrient reductions that will occur and potential changes to instream concentrations when Reg 85 is fully implemented (2025). Information to utilize could include:
 - Colorado State University's Comprehensive, Optimal and Effective Abatement of Nutrients (CLEAN) center tools NPS loads?
 - CLEAN center mass balance tools?
 - Water Environment Research Foundation (WERF) site-specific nutrient study?
 - Regulation 85 required monitoring results
 - Facility summary information

