

11 responses

Summary

Name (optional):

Bonnie Pierce

Gabe Racz

Bret Linenfelser

Julie Tinetti

Emily Jackson

Dan DeLaughter

Caroline Byus for ERWSD

Dave Akers

Organization (optional):

City of Fort Collins

City of Northglenn

Vranesh and Raisch

City of Boulder

Centennial Water and Sanitation District

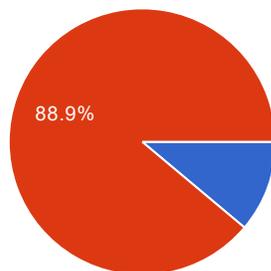
Metro Wastewater Reclamation District

Colorado Monitoring Framework

Littleton/Englewood WWTP

Leonard Rice Engineers, Inc.

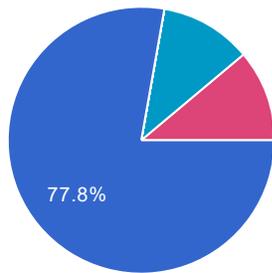
Is your organization a trade group or does it represent multiple agencies? (optional)



yes 1 11.1%

no 8 88.9%

What type of organization do you represent - please check all that apply? (optional)



Domestic Wastewater Treatment Facility	7	77.8%
SIC 20 Facility	0	0%
Cooling Tower	0	0%
Municipal Separate Storm Sewer	0	0%
Nonpoint Source	0	0%
Non-Governmental Organization	1	11.1%
Other	1	11.1%

What is the design capacity of your facility?

23 MGD at one facility, 6 MGD at another facility

6.5

25 MGD

8.48 MGD

220 MGD

50 MGD

Vail WWTF - 2.7 MGD; Avon WWTF - 4.3 MGD, Edwards WWTF - 2.95 MGD

N/A

1. Changes to TIN effluent limit.

Our planning has been based on a compliance schedule to reach 15 mg/L TIN as an annual median by 2020 because we discharge to segments without the water supply use. The design was based on the current limits established when Regulation 85 was adopted. Time is needed to determine what further changes would be required to meet a lower TIN limit regardless of which method is used to set the lower TIN limits. Our efforts would include sufficient data collection to develop a TIN reduction strategy, additional planning, and achieving stakeholder buy-in to meet any new requirement. A delay in any change to the TIN limit to at least 2022 would be helpful. We don't know with certainty how much we could reduce the TIN effluent levels at this time because we are planning additional major modifications to reduce phosphorous effluent levels that will also impact TIN levels.

we still believe that incremental progress is worthwhile so would support lowering to 12 or 13.

We would only support reducing the TIN limit if it can be shown to significantly improve in-stream water quality. We do agree with delaying till 2022 (or 2027).

- Some facilities would experience difficulty meeting a limit of 10 mg/L TIN without capital improvements. A limit of 13 mg/L would still achieve significant load reductions of approximately 15% compared to the current Regulation 85 limit for TIN.
- We are checking with facilities to see whether there would still be problems associated with a limit of 12 or 13 mg/L, so are not yet to comment on whether this limit is feasible.

Based on the current treatment process the City of Boulder would be able to comply with a 12 or 13 mg/L TIN effluent limit. This level would be a reduction from the current TIN effluent concentration (achieved without chemical addition) and chemical addition would be required to achieve an effluent limit of 12 or 13 mg/L.

Centennial is ok with changes to the TIN effluent limit and we are especially interested in the statistical limit approach.

Due to infrastructure upgrades which were undertaken at the Robert W. Hite facility pursuant to permit requirements for ammonia and nitrate the Metro Wastewater Reclamation District will be able to comply with a lower TIN parameter limitation of either 12 or 13 mg/TIN. To the extent it is necessary to revise the parameter limitation to demonstrate continued progress; an alternative to lowering the annual median parameter limitation would be to alternatively lower the 95th percentile parameter limitation. The Metro District's experience having piloted biological nutrient removal is that the median parameter limitations were appropriate and representative of the effluent concentrations after the District initially installed infrastructure upgrades and made operational changes to run biological nutrients removal. However, overtime the as the systems were optimized the systems became more reliable and the scatter of the data decreased. Therefore, the better statistic to lower is the 95 percentile, rather than reducing the annual median. This would result in nutrient load reductions that mimic the biological processes.

L/E still believes that the original Regulation No. 85 should be fully implemented prior to further reductions of the technology-based limits in Regulation No. 85. Dischargers to Upper South Platte Segment 14 are already subject to additional requirements for nitrate due to the water supply use standards and the associated TMDL. The original Reg. 85 reduction to 15 mg/L, once fully implemented, will likely provide some very good insight to stream response and downstream lake response from this interim step. Decreasing the limit further would be a potential distraction that would prevent us from focusing on the more stringent requirements of the TMDL, the yet to be developed revised lake criteria, and the yet to be implemented revised criteria for streams. It will become very difficult to plan for the future if the target continues to move lower at every Regulation No. 85 hearing. Additionally, dischargers will typically strive to do the best they can with the technologies they have in place, so the practical effect of changing the limit from 15 mg/L to 12 mg/L or 13 mg/L on actual effluent concentrations is likely to be small for facilities that already have BNR in place. L/E has similar concerns with the proposal to change the TIN limit based on facility reliability (i.e. changing the percentile targets of either the median or 95th percentile), although these options are likely more conducive to regulatory compliance by the wide range of facilities that will have Regulation No. 85 permit requirements. Again, operators will do the best they can with the system and knowledge that

they have. Based on our workgroup discussions, it is very evident that dischargers would like to have some “regulatory certainty.” We have some thoughts on how this could be accomplished, either using a fixed approach, or an opt-in approach that could further incentivize early reductions. Either option should help to alleviate the concerns of dischargers that have already begun planning to meet 15 mg/L. The optimization plan concept identified in item no. 3, below could also provide a more technologically-based approach to doing the best with existing BNR systems, but without an unnecessary regulatory constraint of more stringent limits. If the Division decides to proceed with lower limits for TIN, one option may be to allow facilities that have existing BNR processes to conduct an optimization study and implement the recommendations as an alternative to meeting the lower limits. This could be done within the context of a compliance schedule. Delays to 2022 or longer would be appropriate if Regulation No. 85 limits are made more stringent, and should be considered in conjunction with the regulatory certainty concept identified above. If limits are made more stringent, it would be appropriate to exempt facilities that are subject to TMDL requirements for nutrients and that have already achieved the original (2012) Reg. 85 limits as long as they demonstrate continued progress in meeting the TMDL WLAs or are working toward development of site-specific standards and/or DSVs. Continued progress on those options would constitute progress toward nutrient reductions, so further Reg. 85 reductions would not be necessary.

Reducing the TIN limit from 15 to either 12 or 13 mg/L: The Eagle River Water & Sanitation District (ERWSD) is not in favor of reducing the Regulation 85 TIN limit below 15 mg/L for the following reasons: 1) Lack of cost-benefit assessment - ERWSD supports adoption of nutrient effluent limits that are scientifically-based and can be implemented at costs that are justified by the expected environmental benefit. We don't have sufficient information to understand the implications in terms of capital and operational costs – over what is required to meet a TIN limit of 15 mg/L – nor do we have the information needed to determine if there would be any measurable nutrient-related improvement of stream conditions. With no environmental benefit realized, further reducing the TIN limit could potentially have a net negative environmental impact due to the additional chemical consumption of external carbon substrates that would be required. From a utility perspective, ERWSD is obligated to demonstrate to its customers that capital and operational investments are cost-effective, environmentally sound, and sustainable over time. In 2014, ERWSD obtained voter approval to issue a \$25 million general obligation bond. This bond covered the first phase of capital projects required for its WWTFs to comply with Regulation 85; additional funding is needed. To gain community support, ERWSD conducted an extensive outreach effort over a period of 18 months that included approximately 30 presentations to a variety of Eagle River stakeholders including Eagle County, towns and special districts, homeowner associations, Trout Unlimited, rotary clubs, and other interested parties. The outreach effort required that ERWSD provide credible and defensible information to support the funding requests for which it was seeking approval. It would be difficult to go back to the voters for additional funding without even having implemented what was already approved, and without being able to measure the incremental progress that will be made with these additional nutrient removal processes. Based on the above reasoning, it would be prudent to conduct a cost-benefit analysis before enacting any reduction in the TIN effluent limit. The goal of the analysis would be to determine a justifiable new TIN limit that could be achieved by dischargers without significant additional capital improvements beyond what's required for

compliance with the current regulation. 2) Incremental progress - The Division has cited the need to show incremental progress as justification for more stringent Regulation 85 TIN limits. It is our understanding that reducing the TIN limit is also intended to help garner EPA support for extending Regulation 85 and delaying the effective date of Regulation 31 numeric nutrient criteria to 2027. While it's not entirely clear how incremental progress is being defined, ERWSD contends that progress beyond what is required by Regulation 85 will, in many cases, be achieved through implementation of the current technology-based limits and this should be considered in the Division's assessment of incremental progress. The Division's desire to achieve additional incremental progress may already be accomplished through the requirements of the existing regulation. The industry's practice to build a "margin of safety" into WWTF treatment process design ensures that facilities will meet permit limits by discharging nutrients at concentrations lower than required. Consequently, a facility required to meet a TIN limit of 15 mg/L will be designed to achieve an effluent discharge concentration below 15 mg/L, such as 13 or 14 mg/L, for most of the time. Similarly, a facility required to meet a TIN limit of 12 or 13 mg/L will be designed to achieve a limit of 11 or 12 mg/L or lower, and so forth. Therefore, because implementation of current Regulation 85 limits assures progress beyond what is necessary, achieving incremental progress is an inherent characteristic of the regulation. If not already considered, additional nutrient reductions beyond those required, as described above, should be included in the Division's evaluation to measure incremental progress. 3) Evidence of nutrient-related degradation - ERWSD does not support a requirement to reduce end-of-pipe nutrient limits beyond the current technically-derived limits for first-stage BNR where no site-specific evidence of nutrient-related degradation exists below facilities. 4) Regulatory flexibility - The Water Quality Control Commission provided exceptions to the requirement to meet the technology-based limits for situations where the discharge from a treatment facility is presumed to not have a significant impact on nutrient loads in the receiving waters or downstream reservoirs. These provisions include: a. 85.5 (3)(b)(ii) which states: "Where a discharger demonstrates to the satisfaction of the Division that its discharge is unlikely to cause or contribute to ambient nutrient concentrations in its receiving waters that exceed the relevant numeric levels for total phosphorus and total nitrogen set forth in section 31.17 of Regulation #31"; and b. 85.5 (3)(b)(iv) which states: "If effluent concentrations higher than the applicable numerical limitations under this Control Regulation are adequate to achieve the total phosphorus and total nitrogen instream values set forth in section 31.17 of Regulation #31, then those alternative concentrations will apply as effluent limitations under Regulation #85 rather than the numerical limitations set forth in sections 85.5(1) and 85.5(2) hereof." It is ERWSD's understanding that the above provisions will remain intact and applicable despite the EPA's recent "no action" decision on Colorado's interim nitrogen and phosphorus stream criteria. Please confirm. In summary, ERWSD supports implementation of a regulatory approach that provides the flexibility needed to meet nutrient reduction requirements using cost-effective control measures and management strategies that can be tailored to individual watersheds and facility performance abilities. ERWSD does not support lowering the Regulation 85 TIN effluent limit as a regulatory requirement, but would likely support incentivized options that extend the period of time required to come into compliance with WQBELs, or other incentive, in exchange for meeting a lower TIN, or TP, limit. Modifying the statistical limit (e.g., using the 85th percentile instead of 95th percentile): ERWSD objects to making a modified statistical limit for

TIN reduction a requirement for the same reasons discussed above, but would support this proposal as an incentivized option. Rather than reducing the numerical limits or modifying the statistical limit as a categorical requirement for all facilities currently required to comply with Regulation 85, we suggest allowing utilities to pursue voluntary incentives to implement optimization plans that demonstrate an overall reduction in the percentile distribution of N and / or P effluent concentrations. This approach acknowledges the individual process conditions at a given facility and the site specific ability to lower effluent concentrations or loading. Delaying any change to the TIN limit to 2022: As stated above, ERWSD is not supportive of a numerical change to the Regulation 85 TIN limit.

I agree that a lower number with a different the statistic used to determine compliance makes sense.

2. Load cap and percent reduction as alternatives to effluent limits.

No comment.

since this is a control reg, seems to me that allowing alternative pathways which achieve the same goal is appropriate, so we would support providing either a load cap or load reduction or both.

We are in support of expanding nutrient reduction efforts and the concepts introduced here. We support flexibility for the utilities in meeting these requirements, through either a load cap or load reduction, based on their circumstances.

- Consider whether these alternatives might also be implementable for facilities currently subject to Regulation 85. This could be implemented as an alternative to the proposed TIN effluent limit or 12 or 13 mg/L. A facility could propose an alternative that achieves approximately equivalent nutrient load reductions compared to the current Reg. 85 effluent limitations. For example, a facility that can reduce TP may elect a limit based on 0.85 mg/L as a median value, or an alternative limit that achieves an equivalent load reduction (such as reducing the 95th percentile). This could be an option at the facility's election based on a demonstration to the Division that it would require a load reduction equivalent to a reduction from 15 mg/L to 13 mg/L TIN.
- It is difficult to respond to the load reduction or load cap alternatives for facilities that are not yet subject to Regulation 85. Once we have more information about which facilities are proposed to be added, we will be in a better position to respond.

This does not apply to the City of Boulder wastewater treatment facility due to size of the facility.

Centennial needs more information on the facilities that are proposed to be added before responding to this question. Can we also consider these alternatives for facilities already subject to Regulation 85?

No further comments at this time.

ERWSD would not object to a proposal to expand the universe of facilities subject to Regulation 85 effluent limits through including facilities with design capacities between 1 and 2 MGD and those in low priority watersheds. However, basing the application of Regulation 85 effluent limits solely upon geographic location and/or design capacity seems arbitrary because it doesn't

consider the potential impacts of those facilities to their receiving waters. We would recommend consideration of 'impact-based' criteria such as the streamflow to design flow ratio.

Since most of the smaller facilities will not have the capability to conduct detailed analyses in-house it would be advisable to provide them with some assistance to define the scope of services for a consulting engineer that would be necessary to guide them through the process of procuring the services of an engineer. This might necessitate looking into the option of getting assistance from a larger facility for this option as well as the options identified under item #3 below. An additional option could be to conduct an analysis using data collected by the permittee under Reg. 85 to characterize the TN and TP concentrations of the discharge to demonstrate that the discharge meets the Reg. 85 limits or that the downstream concentrations of TN and TP are less than the numeric values in Reg. 31. I know this is already provided for in the exceptions section of Reg. 85 (85.5(3)(b)) but the amount of data for smaller facilities would likely be less than that which would be provided by a larger facility so some accommodation to allow the existing data to be used would be appropriate. The Wastewater Utility Council could be a good place to start to brainstorm ideas since they have had a small facility mentoring program in the past. A load reduction approach could make sense if that can be done with the understanding that the Division should adopt a procedure to make it easier to recoup any loss of design capacity necessary to allow the facility to take advantage of enhanced treatment that could be available to underloaded facilities. The 125% load cap might not work for the smaller facilities since many of them are either lagoons or will not have the ability to meet the load limit due to limitations of the facility configuration or its inability to remove a large enough percentage of the TN and/or TP load to keep the increase at 25% at the existing design capacity.

3. Incentives.

It is our opinion that most if not all wastewater treatment plants already practice operational and maintenance optimization as best industry practices, including those actions that control discharge of nutrients. Optimization practices likely already exist for different treatment processes, but a central repository for this knowledge does not exist in Colorado. The WQCD could offer an incentive to facilities that document and share these best practices. We are unsure what type of incentives the WQCD could offer outside of delaying implementation of WQBELs.

seems that #2 would provide an incentive. Not sure what it would mean to waive nutrient WQBELs, since there aren't any in place. Obviously there shouldn't be incentives that would result in poorer instream water quality.

We support incentivizing optimization for all facilities. We support trading and waivers, as they add flexibility and greater achievability. One idea for an incentive would be something similar to the Pursuing Excellence Program (for drinking water facilities), in which providing assistance to a smaller utility could be one of the ways to gain recognition.

- More information is needed about the nature of the incentives. We have doubts about whether the Utah approach of providing "waivers" from WQBELs would be legally defensible. What assurance could a facility be given, if it implements optimization or source control in 2022, that it will get relief after 2027? If a "waiver" cannot be implemented, what other incentives might be effective?
- The idea of incentives is a good one – it is a mechanism to achieve even greater

nutrient reduction before 2027. • It is good that the Division would incentivize optimization without capital investments. However, should capital investment before 2027 also be incentivized? This could give facilities a broader array of choices, if the incentives are adequate. • One incentive that may be effective would be a commitment to defer adoption of water quality standards beyond 2027. This could be used as an incentive to achieve greater nutrient load reductions before 2027. Without an incentive program, facilities would not have planning certainty to implement improvements before 2027, because of the concern that they may need to implement different technology (i.e., tertiary treatment) after 2027. • Variances to be developed in 2027 provide an uncertain basis for moving forward, because of the need to demonstrate technological, economic, or environmental feasibility. In particular, there are still no examples of environmental feasibility to demonstrate that a variance can be granted based on the sustainability of the proposed technology (as opposed to cost or technical feasibility). It would be helpful if additional detail was provided on what incentives could include. The concept of providing incentives, and implementing on a voluntary basis, are appealing to the City of Boulder and could allow additional flexibility leading to cost savings and a broader environmental benefit. Incentives that focus on non-capital investments would be the best place to start and allow dischargers to determine what they could potentially do to reduce nutrients in a more cost effective way. In addition, moving the adoption of nutrient water quality standards beyond 2027 should be considered as part of an incentive package.

I like the idea of incentives; it is a way to achieve even greater nutrient reductions before 2027. We need more information on how waivers from WQBELs work. What assurances would a facility be given if it implements optimization or source control in 2022 that they will get relief in 2027?

The Metro District appreciated the Division's efforts to investigate and propose incentive options. The District believes that incentive approaches will drive the reduction of nutrients faster and in a more sustainable manner than traditional regulatory approaches. The incentive options will allow utilities to continue to innovate and optimize their systems. The District is supportive of all options that are currently being considered: optimization plans, source reduction plans, trading and operator mentoring or assistance. The next step is to flush out the details so all parties are aware of the expectations and outcomes. The District has two ideas that are not mutually exclusive. The first idea is to create a list of minimum measures. Each minimum measure or a group of minimum measures would be assigned a period of time of regulatory relief. For example, a minimum measure could be installation of a phosphorus recovery system, which would provide a 1 year waiver (or whatever relief mechanism is provided). Recognizing that this minimum measure approach may not work for everyone, a second option could be a table that is matrix of time, concentration reduction and period of regulatory relief. The lower the concentration that a facility is able to achieve in a time period the more relief they would receive. The Metro District is also supportive of the economic concept raised by Littleton/Englewood. It would be helpful if EPA would provide its opinion on the waiver options. Alternatively, the District also believes the same concept—additional regulatory relief—could be accomplished through tools other than a waiver, such as delayed effective dates on the Regulation 31 water quality standards or through compliance schedules.

The Division and other stakeholders have been discussing the use of the incentive options as a way to encourage early nutrient reductions. These incentive options should also be considered as an alternative “tool in the toolbox” to any updated regulation No. 85 requirements, as discussed above, including any reduction of the TIN limit. Regarding the use of incentive options to provide a WQBEL waiver, the idea is interesting, and the legality of such an approach should be further explored. One issue that has not been addressed by the workgroup is whether incentive-based waivers would apply to wasteload allocations derived in a TMDL. The Barr-Milton Watershed Association has expressed concerns about linking delays in TMDL implementation with delays in development and implementation of new and revised nutrient criteria. The Division has indicated that optimization must result in genuine reduction, and not the “appearance” of reduction by taking advantage of design capacity. This is an issue that should be thoroughly explored during the next Regulation No. 61 Rulemaking Hearing, with consideration to the EPA’s proposed NPDES Rule changes. It seems reasonable that if a facility has developed a long-range growth projection and can anticipate far enough in advance when additional treatment upgrades would be required, reliance on existing excess capacity could buy valuable years of time, during which, newer, more cost-effective technologies for nutrients reduction may be developed. Considering the costs involved with nutrient reductions, it doesn’t make sense to limit nutrient reduction options in this way. Unique approaches should be considered, possibly involving regulatory changes in Regulations No. 61 and 22.

ERWSD is in favor of incorporating incentivized options that would improve stream health, allow the most effective use of resources, balance costs with expected environmental benefits, meet local needs, and provide a reasonable extension of time before additional nutrient loading reductions are required. ERWSD supports all of the incentives discussed and, as mentioned above, would also support a modification to the 95th percentile statistical limit, and reduction of the TIN limit of 15 mg/L as incentivized options rather than regulatory requirements.

A voluntary approach for smaller facilities would be ideal but I'm not sure that the options listed could be achieved without some regulatory backstop. Maybe a compliance schedule could be used that would require the permittee to select and implement one of the options and, if that approach is not implemented or is not selected, the compliance schedule would be written/modified to require the facility to meet the Reg. 85 limits. Again, a good incentive for large facilities to provide assistance might be determined through discussions with the Wastewater Utility Council.

4. Monitoring.

We agree with adding monitoring requirements for DO, pH, and data on cloud cover and extreme weather events to better understand the relationship between nutrients and biological impairment or other complaints.

there could always be more monitoring to provide more data. however, dischargers sometime complain about the costs, or that there still isn't enough data to add regulatory requirements, so any new monitoring should be data that the dischargers want done, and that they affirmatively agree will, once collected, allow the Division to adopt regulations that will further progress on nutrient control.

First, ensure that the facilities that are currently required to monitor, are actually submitting data. Also, consider requiring more up and downstream of outfall monitoring, to better characterize in-stream conditions and impacts from dischargers. Develop guidelines for monitoring non-point source contributions for implementation of BMPs. We do not support adding monitoring parameters if there is not a definitive correlation to algae growth. There are many other factors that also contribute to algae growth, including temperature, habitat, depth/width of stream, etc. A better approach would be to not adopt a periphyton or chlorophyll standard if nutrient values are below the stream standard.

The City of Boulder already monitors for chlorophyll a, DO and pH, in addition to Regulation 85 requirements for nitrogen and phosphorus. The City of Boulder would support monthly pH and DO monitoring, but a lesser frequency for chlorophyll a should apply due to the required resources to collect chlorophyll a. The city of Boulder currently collects chlorophyll a samples at four sites three times per year. With respect to increasing the monitoring frequency, the City of Boulder feels that monthly sampling for nitrogen, phosphorus, DO and pH are sufficient since we see only small variations from month-to-month.

More data is always better but there are concerns regarding chlorophyll a data being representative.

Recommend not making chlorophyll a monitoring a requirement. Monitoring of chlorophyll a is both time consuming and expensive. The majority of facilities in Colorado do not have the staff, equipment, or laboratory facilities to perform such testing. Most facilities would need to contract out such monitoring which can be expensive.

Enhanced monitoring will likely be needed on many stream segments to provide the abundance of data needed to determine the stressor-response relationships for nutrients and potentially to develop appropriate site-specific standards. The Division should think this through very carefully before adding additional monitoring requirements. This type of monitoring could place a significant financial burden on some entities, particularly smaller entities, and some entities may not have the staff, resources, or technical capabilities to conduct extensive nutrient monitoring. The Division and CPW should also identify the resources that they would have available to support such extensive monitoring efforts. Specific questions that should be addressed include:

- Will monitoring be targeted to development of empirical/statistical modeling, versus developing mechanistic models?
- Will the Division provide standardized sampling and analysis protocol information and methods for conducting quality assurance?
- Some models require different inputs, so think about the end user of the data before determining what parameters to sample for.
- For some systems, particularly lakes, it may be especially important to understand storm flow contributions as well as channel erosion contributions and internal loadings to the system.

Thoughts regarding specific types of data that should be considered in addition to those mentioned by the Division:

- For mechanistic models, additional special studies may be required; For example, these models are often very sensitive to Sediment Oxygen Demand (SOD), algae growth rates, reaeration rates, stream hydraulics, shade (both vegetative and topographic), and travel time, none of which are quantified through traditional water quality monitoring.
- Synoptic sampling events should be conducted, particularly during critical low flow periods, and towards the end of the algae growing season, in which a full suite of nutrient and algae parameters is sampled at multiple locations in the mainstem, major tributaries, and major

point sources, in conjunction with flow measurements. • DO, pH, specific conductivity, and temperature monitoring should be conducted using continuous datasondes at multiple locations in the stream segment to assess diel variability and improve model calibration.

A thorough evaluation of data collected to date should first be completed and shared with stakeholders before additional data collection is required. It may be most appropriate to require additional data collection on a watershed-specific basis where concern about nutrient pollution would justify costs of the sampling. Requiring additional data collection could be burdensome to some facilities and may not be needed in some areas of the state.

Monitoring for the largest facilities (those currently not exempted or excluded) for Ch A, DO, and pH make sense. These parameters could be added to the 1-2 MGD category as well after evaluation of the increased cost and balancing that with the need for the data. I'm not sure that an increase in frequency of monitoring for the facilities currently required to monitor would add much value unless a specific analysis shows shortfalls in monitoring data are interfering with good decision making. Depending on how well the group can "crystal ball" whether there will be a change in the indicator organisms upon which revised numeric values might be based (currently based on macro invertebrate data), collection of macro invertebrate data for the larger facilities could be discussed. Perhaps this monitoring could be done in partnership with the Division where each party would agree to collect data for a portion of the year.

5. Lakes and reservoir standards .

This is a reasonable compromise vs. implementing the standards in all lakes and reservoirs in 2022. The results of WQCD analysis of the nutrient data should drive this approach and could justify phasing in lake standards beginning with the most impacted water bodies.

because EPA approved the lakes/reservoirs standards, we think they should go into effect in 2022, as envisioned in 2012.

We are generally in support of this approach.

- Support for deferring the development of additional standards for lakes and reservoirs that are subject to current Control Regulations. Review of those reservoirs should continue on a site-specific basis.
- It makes sense to focus on lakes and reservoirs needing particular protection (DUWS or swim beaches).
- Also, it makes sense to allow implementation of currently-effective nutrient-related TMDLs to continue before standards are adopted. The results of TMDL implementation may provide valuable information for standards development.
- There has been little discussion of the proposed approach to developing revised criteria with stakeholders.

Based on workgroup discussion it appears that the WQCD and EPA have concluded this will not be a difficult task but the scope of the task has not been explained. It is difficult to comment on the proposed timeline without additional information. When will that discussion occur? • What data are needed? What data are available now? • Sampling is scheduled to start in summer of 2017, but the TAC starts in 2018. Shouldn't discussion of the data needs occur first with a TAC if that's going to be the vehicle for discussing approaches to criteria development? •

Implementation strategy discussion with stakeholders must occur before 2022, if the Division will propose standards for all lakes and reservoirs in 2022. • Similarly, site-specific standards discussions must occur with stakeholders before 2022. Are there different approaches and data needs that would be appropriate for site-specific standards than for the planned revision to the

interim values? • Overall – these questions may or may not be overly complicated, but stakeholders have not had detailed discussion of the lakes standards since 2012. • It appears WQCD and EPA have agreed on an appropriate path toward standards development. Are there alternative approaches that should be considered? Have we re-examined why the Division used the approach it did in 2012? Would alternative approaches affect the timing? • How will WQBELS be developed? Does this differ by reservoir type? For off-stream reservoirs, will the Division commit to an approach based on collection of data followed by 303d listing and TMDL development because of the complexity of considering the operation of the diversion structure by the reservoir owner.

The City of Boulder would support focusing more on lakes and reservoirs needing additional protection, such as DUWS and swim beaches. Additional information on what additional data would be required would be useful. Site-specific standards discussions should occur with stakeholders before 2022 since there are different data needs and approaches to site-specific conditions.

Centennial needs to give this some more thought.

The modified approach is a reasonable compromise in concept. To formulate a complete opinion it will be necessary to generate the complete lists of lakes and reservoirs with DUWS and high recreation uses that will be subject to Regulation 31 interim values in 2022.

For lakes and reservoirs that already have a TMDL or control regulation to limit nutrient impacts, we suggest that the Division rely on the existing TMDL or control regulation to protect those resources and avoid the potential for development of overlapping TMDL requirements. We may wish to provide additional comments when the Division identifies the proposed facilities to be included.

No comment.

I wasn't able to attend the meeting and am confused by the reference to "above dischargers" in the context of standards for lakes and reservoirs. Also, is the reference to high recreational use (swim beaches) for those areas in both reservoirs and flowing waters?

6. Adopting chlorophyll 'a' criteria statewide in 2022.

This seems like a prudent approach because of the multiple parameters that influence the presence of chl-a in addition to nutrients.

We support state-wide adoption of chlorophyll a standards in 2022. We are concerned that implementation exclusively through TMDLs is unlikely to result in substantial protection against algae build up in the streams.

We do not support developing TMDLs for segments in which chlorophyll is not correlated with nutrient levels. Again, we believe a better approach would be to not list the stream or lake for chlorophyll/periphyton if nutrient values are met.

- Lakes and reservoirs: How might site-specific chlorophyll-a standards be developed? Are there lakes where the general trophic status is not appropriate?
 - o Lakes without recreation or water supply
 - o Lakes subject to extreme ranges of water levels because of water management. Might chl-a only be attainable if the lake has enough water? Should there be a lake-level exception for some lakes?
- Streams and rivers.
 - o In sandy-bottomed and large rivers and streams, this

standard can be difficult or impossible to assess. What is the strategy for applying the standard to those water bodies? o What about streams that lack a correlation between attached algae and nutrients? Where light and flow are the dominant factors, would that form the basis for site-specific standards? What discussion of these factors will occur before 2022? • The proposed implementation helps o How will the WQCD document the plan to use assessments and TMDLs to inform WQBEL-setting process based on chl-a? o Justification for use of WLA approach – modeling is needed to determine on a site-specific basis whether P or N loading is causing chl-a growth in the stream or whether there are other reasons.

The City of Boulder could support the adoption of a chlorophyll a standard, but a few things need to be considered. Would there be an opportunity to develop a site specific chlorophyll a standard (using a model or other) since our data show a weak and variable correlation between nutrients and chlorophyll a? A review of the proposed chlorophyll a standard should be completed after sufficient data are collected to evaluate the relationship between nutrients and chlorophyll a as a response variable. Specific focus should be given in the area of evaluating the limiting nutrient and relationship to chlorophyll a.

In sandy-bottomed and large rivers and streams, this standard can be extremely difficult to assess. What is the strategy for applying the standard to those water bodies? How will the Division document the plan to use assessments and TMDLs to inform WQBEL setting process based on chlorophyll a?

Since this criteria is a recreation criteria based on visual appearance perhaps it would be appropriate to initially limit the adoption of chlorophyll criteria to areas of known heavy recreation. Additionally due to the difficulty of chlorophyll a sampling in sandy bottom plains streams that have a continuous moving bed load, experience flashy flows, and experience significant water management adoption of the criteria in such rivers and streams may not be appropriate. Example of such systems would be the Arkansas River downstream of Pueblo, Fountain Creek downstream of Colorado Springs, South Platte River downstream of the Burlington headgate. Collection of chlorophyll under such conditions may not be representative considering the rapidly changing flow conditions over a 24 hour period which causes continuous scouring of the stream bed.

It is difficult to know how this would affect us without a thorough review of the available chlorophyll-a data for Segment 14. We have not had time to conduct a review for this survey. We may wish to provide additional comments at a later time.

ERWSD concurs with this approach.

Any approach to implement Ch A standards through TMDLs must recognize, where NPS are a significant contributor of the load, that meaningful, implementable, and enforceable load reductions for NPS would have to be part of the discussion. If it is determined that this isn't feasible, then the Division should agree that TMDLs will not require point sources to reduce loading more than their pro-rata share of the overall load (e.g., if the current PS load is 400 lbs. TN/day and NPS load is 600 lbs. TN/day and the total allowable load is 200 lbs. TN/day then the allowable PS load would be at least $400/1,000 \times 200$ lbs. TN/day (80 lbs. TN/day) and the allowable NPS load could be no more than $600/1,000 \times 200$ lbs. TN/day (120 lbs. TN/day)).

7. Adopting standards in basins all at once vs rolling into the basins.

Completion of these tasks by 2022 will present a serious resource drain because we may be looking at a site-specific proposal. The typical basin-by-basin approach would allow time for development and consideration of site-specific data and not require significant shifting of resources to meet the accelerated schedule.

We strongly support adopting standards in all basins at the same time as adopting standards in the basic standards -- and not just for nutrients! No other state has as complicated a system or as long a time period as does Colorado between the decision that a standard is warranted and when it might finally become enforceable.

This doesn't seem to have an effect on the utilities, but more so the Division's staff time. We support whichever method is more efficient for the Division.

- Providing draft criteria early together with the technical rationale will be an important aspect of this. Is one year enough time? Particularly for a hearing involving nutrients, selenium, and ammonia together? Although the treatment issues for those parameters overlap making it logical to deal with them together, the biological issues related to standards development are likely to be different, requiring more time.
- It is unclear how site-specific standards can get equal attention to the current approach, particularly for the planned 2027 hearing. Will there be one hearing or a series of hearings through the year?
- Historically, development of site-specific standards has been an iterative process. Particularly where there are complex technical issues, several hearings are sometimes necessary to resolve all uncertainties. What are the plans to follow up in those cases where site-specific standards are proposed but not adopted in the statewide hearings in 2022 and 2027?
- Good input will be needed early in the process of site-specific standards development. The schedule needs to account for a large number of site-specific issues that will need to be discussed among the proponents, the Division, and other stakeholders including EPA and CPW. Early input, particularly from the Division, will be important to identify issues and maximize the chance that a proposal will be ready for Commission consideration in the statewide hearing. The workgroup should discuss the implications of these needs on Division and stakeholder resources leading up to hearings in 2022 and 2027. Does this resource need reduce the advantage of departing from the basin hearing approach?

The City of Boulder could support adopting standard in all basins at one. Providing draft criteria early, together with the technical rationale, will be important. It is unclear how site-specific standards can get sufficient attention to get to a point where standards could be adopted in 2027.

Providing draft criteria early with the technical rationale will be very important. I wonder if one year is enough time, particularly with a hearing involving nutrients, selenium and ammonia. How will site specific standards be given equal attention?

The Metro District seeks clarification about whether this approach will apply to all parameters or just nutrients and selenium. The District believes that the basin hearings will remain vital to continue routine review and progress on other parameters, and would not support halting site-specific work in the basin hearings for all parameters. Another point of clarification is whether the Division plans to maintain the basin permitting schedule?

No further comments at this time

ERWSD supports the concept of freeing up resources to simultaneously conduct feasibility studies and develop criteria for multiple parameters as outlined by the Division. However, the application of site-specific standards on a statewide basis seems too cumbersome to achieve in one hearing.

If the standards were adopted into all of the basins at once what would the Division plan be for issuing permits to address numeric nutrient standards? (e.g., would the Division maintain its current approach of issuing permits in the basin for which the most recent triennial review RMH has occurred?). If the Division kept with this approach, the nutrient standards adopted all at once would not result in a change in their implementation into permits on a basin-by-basin basis. If the Division were to revise its permitting approach then this should be part of the discussion of this issue.

8. Stakeholder outreach and discussion.

We are concerned about the greater reliance on smaller technical advisory groups vs. involvement of the larger stakeholder community in the workgroup process. This forces stakeholders to invest more resources in obtaining the services of technical experts, results in less frequent sharing of information among stakeholders (i.e., the technical advisory groups tend to meet less frequently), and limits policy discussions that can influence technical solutions.

we support the Division's approach

We support the additional time for data development and stakeholder discussion.

- Reliance on TACs and reduction in workgroups.
 - o The nutrients workgroup (or phase 2 subgroup) should have more discussion about why the Division proposes to reduce workgroup involvement and increase reliance on Technical Advisory Committees ("TACs").
 - o TACs are labeled as "outreach." However, a TAC is not outreach. TACs do have advantages in allowing the Division and other stakeholders to workshop technical questions or approaches using expertise shared by other stakeholders. However, outreach needs to be separately scheduled.
 - o Participating in TAC discussions can be challenging for members of the stakeholder community that lack relevant in-house expertise. Either it is costly for individual entities to retain technical experts in the relevant subject areas, or it is time-consuming for trade groups to get funding for these efforts. In order to aid this effort, any technical committees need to have well-defined scopes of work before they begin to allow potentially interested parties to assess whether they would be interested. Scoping can be done by a workgroup, although the experience of the Temperature TAC indicates that it may take more than one meeting to arrive at a consensus on the scope of work.
 - o TAC work must have an adequately defined scope to be useful.
 - o TAC work and deliverables must be communicated to stakeholders.
 - o Would peer review provide a more appropriate format in some instances?
 - Written materials provide a focused scope and identify the types of expertise that stakeholders need to retain to provide useful input.
 - Provides an opportunity to provide multiple types of expertise while controlling cost.
 - An opportunity to tap non-local expertise as appropriate.
 - WERF could be a good avenue for tapping national expertise and conducting true peer review.
 - o Should some work be done through a workgroup/peer review combined model?
- Comments specific to streams and rivers TP & TN
 - o More uncertainty balanced by the greater amount of time.
 - o Should TACs (and/or workgroup discussion of issues) precede launch of studies and sampling efforts? For example, "primary

production indicator method” study starts in 2017, not sure what that is? o Here again, TACs may not be the best format for tapping technical expertise, or may need to be supplemented by written materials.

Stakeholder outreach and involvement will be critical, and a couple of things should be considered in the draft Roadmap. TACs should not be considered outreach, but TACs should continue since they do have advantages in allowing the Division and other stakeholders to discuss issues in a workshop setting. Separate outreach outside of TACs should continue and be used a forum to discuss TAC outcomes and allow stakeholders to see how TAC recommendations apply to their facility.

Why is there more of a reliance on TACs and less emphasis on workgroups?

The Metro District supports the stakeholder outreach that is proposed in the Division’s draft road map.

No further comments at this time

ERWSD supports the approach proposed by the Division.

The outreach the Division has proposed is comprehensive and should allow interested parties time to have a full discussion and, ideally, find common ground/compromise in advance of the respective RMHs.

9. Additional feedback.

Thank you. We appreciate the opportunity to provide input on these issues.

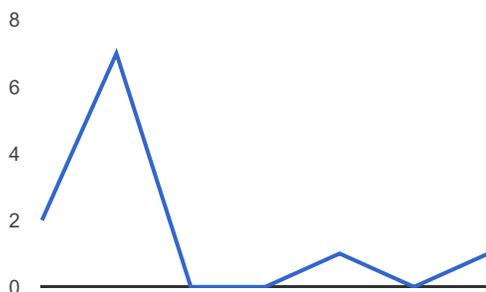
Thank you for the opportunity to provide feedback. These are preliminary reactions to the Division’s draft roadmap and the discussion that occurred at the Feb. 13 phase 2 subgroup meeting.

The CMF appreciates the opportunity to provide feedback but has not had enough time to do so yet. We will provide our thoughts to you no later than March 1st.

No further comments at this time

The phase 2 process has been a breath of fresh air in comparison to recent (previous to 2016) Division approaches and I feel that good progress is being made that will improve the formal hearing process in October 2017.

Number of daily responses



Colorado Monitoring Framework Feedback - Ideas for Phase 2 Progress

1. Changes to TIN effluent limit.

Please provide comments on reducing TIN from 15 to either 12 or 13 mg/L; modifying the statistical limit (eg., using the 85th percentile instead of 95th percentile); and delaying any change to the TIN limit to 2022. (Reminder: no need to comment on the idea of reducing TIN from 15 to 10 mg/L, as the WQCD has agreed in response to the feedback received not to move forward with that option at this time.)

Individual CMF members may provide specific comments on this issue.

2. Load cap and percent reduction as alternatives to effluent limits.

The subgroup has been discussing that the universe of facilities subject to Reg #85 effluent limits may expand through this effort (eg., facilities with design capacities between 1 and 2 MGD and those in low priority watersheds). For those facilities newly brought into Reg #85, please provide comments on the idea to allow them the flexibility to either meet the Reg #85 limits, or receive a 125% load cap or a 30% load reduction requirement, whichever is least stringent or whichever is the preference of the facility based on their particular circumstances. Also please provide comments about each of the approaches specifically (load cap and % load reduction).

Individual CMF members may provide specific comments on this issue.

3. Incentives.

Please provide comments on adding provisions that would incentivize optimization plans, source reduction plans, help from large facilities to small facilities, and trading, by providing waivers from WQBELs. Please note these ideas are VOLUNTARY ONLY, not new requirements. Also provide comment on the idea of incentivizing operators of large facilities or high facility classification to help operators at other facilities - what kind of incentive should be offered and how would this work?

The CMF supports nutrient reduction strategies that are cost-effective and sustainable. To that end, the CMF is in favor of development of facility optimization strategies. Efforts in this innovative technical area are well underway at several CMF member agencies. However, it is not yet clear if resulting waivers from WQBELs would be consistent with Clean Water Act requirements. Additional input from EPA and the AG's office on this aspect would be helpful.

With respect to nutrient trading, CMF members support a framework that is consistent with the Colorado Trading Policy and is not overly complex or administratively complicated. A review of the Regulation 85

trading language with the Colorado Trading Policy may be useful to identify areas for possible streamlining.

As noted in previous comments, the CMF supports nutrient reduction strategies that improve water quality on a watershed basis. Although not within the scope of the upcoming Regulation 85 hearing, a better understanding of the implications of phosphorus removal at treatment facilities with respect to the long-term viability of biosolids land application programs as well as accurate calculations of phosphorus loading on a watershed basis may be appropriate topics for future stakeholder input and discussion.

4. Monitoring.

Please provide comments on what monitoring requirements should be added in order to support the development of criteria? Ideas on the table so far include: adding chlorophyll a, increasing monitoring frequencies, adding DO and pH monitoring, allowing for basin monitoring, and collecting data regarding cloud cover. Please also include any other ideas on monitoring that you think would help support criteria development.

The CMF supports nutrient monitoring strategies that provide scientifically defensible results to determine source loading and accurate assessment of in-stream and in-lake responses. Monitoring activities also should be cost-effective. As such, the CMF does not support adding chlorophyll a monitoring due to significant uncertainty surrounding sampling methodology, especially for warm water, sandy bottom streams.

While the CMF agrees that characterization of possible confounding factors for algal growth (e.g., cloud cover) is desirable on a site-specific basis, it may be appropriate to let such data collection be voluntary, i.e., not be mandatory under Regulation 85. In the alternative, in developing refined nutrient criteria it may be more efficient to identify a “portfolio” of representative sites statewide for intensive monitoring activities over an appropriate timeframe.

5. Lakes and reservoir standards.

Please provide comments about the WQCD's modified approach (discussed at the 2/13 phase 2 subcommittee meeting) to adopt nitrogen, phosphorus, and chlorophyll a in 2022 above dischargers, below dischargers in DUWS reservoirs, and below dischargers in areas with high recreational use in order to protect areas vulnerable to HABs impacts (i.e., swim beaches).

Individual CMF members may provide specific comments on this issue.

6. Adopting chlorophyll 'a' criteria statewide in 2022.

Please provide comments about the WQCD's proposal to adopt chlorophyll 'a' criteria statewide in 2022. Please consider the approach discussed at the 2/13/2017 subgroup meeting which indicated that the implementation of this criteria would be through the 303(d) listing and Total Maximum Daily Load

processes. At this time the WQCD does not plan to develop a permits implementation strategy to translate chlorophyll 'a' criteria into effluent limitations absent a completed Total Maximum Daily Load.

Individual CMF members may provide specific comments on this issue.

7. Adopting standards in basins all at once vs rolling into the basins.

Given the importance of freeing up resources to simultaneously conduct feasibility studies and develop criteria for multiple parameters, and the WQCD's explanation that the same amount of site specific review will occur with the approach of adopting standards in basins all at once, please provide additional feedback on this topic.

Individual CMF members may provide specific comments on this issue.

8. Stakeholder outreach and discussion.

Please provide comments about the stakeholder outreach that is proposed in the Division DRAFT Roadmap.

The CMF supports the Division's efforts to enhance and support stakeholder outreach activities. Because the CMF represents a variety of perspectives with respect to nutrient-related issues, we would encourage identification of potential partnering opportunities with the Division and other stakeholders following the Regulation 85 hearing to support continued conversations on the many identified technical and policy issues.