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May 10, 2024

Water Policy Interim Committee
P.O. Box 201706
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Dear Chairman Walsh and Committee Members,

Our members collectively do more than any other group or entity in Montana to protect and improve Montana's surface water quality. Over the past decade, Montana's municipalities, their industry partners, and our wastewater system taxpayers have spent hundreds of millions of dollars to remove excess nutrients from their wastewater discharge loads. Montana has done far more to reduce the amount of nutrients in our discharges than any of our neighboring states in EPA Region 8 and most other states across the nation. We are proud stewards of both our watersheds and our ratepayer funds.

Our organizations were strong proponents of SB 358 (Chapter 342, Laws 2021) and have been members of the Nutrient Work Group since it began its work on these rules in May 2021. SB 358 authorized for Montana the same process that many other states in the country use successfully to protect waters from nutrients, and what the USEPA itself encourages states to do – adaptive management. (*Memorandum from Radhika Fox Assistant Administrator, Office of Water, USEPA, "Accelerating Nutrient Pollution Reductions in the Nation's Waters," April 5, 2022.*) Under this framework, stakeholders in protecting Montana's water quality and beneficial uses can more effectively, accurately, and affordably determine how best to address all nutrient contributions to a waterbody.

Unfortunately, the draft rules that the Department published propose a program that will instead require expensive and environmentally costly treatment upgrades. Therefore, we respectfully request that WPIC object to the adoption of the rules published at MAR Notice No. 17-434 on April 26, 2024 and direct the Department to analyze the economic impacts of the proposal pursuant to the Montana Administrative Procedure Act and the Montana Water Quality Act and submit that analysis to the public for review and comment before the Department moves forward with its proposal.

Analyze the Economic Impacts of the Proposed Standards on Montanans

The Montana Administrative Procedures Act provides that on written request of an administrative review committee, a state agency must prepare a statement of the estimated economic impact of a proposal. (Section 2-4-405, MCA.) The Water Policy Interim Committee is the administrative rule review committee for the Department of Environmental Quality where the primary concern is the quality or quantity of water.

The need to conduct an economic impact analysis of the nutrient rule package cannot be overstated. SB 358 was, in part, passed in response to the ongoing litigation over the Department's adoption of numeric nutrient standards concurrent with a "variance." The variance, allowed by the Clean Water Act, would grant a discharger more time to meet the numeric standards if the discharger could show that doing so was infeasible due to natural conditions, the presence of dams, diversion or other hydrologic modifications, physical conditions related to natural features, or that meeting the standard would cause more environmental damage or would result in substantial and widespread economic and social impact. During the term of the variance, the "highest attainable condition" of the waterbody, as determined by DEQ and approved by EPA, must be met.

Instead of creating a narrative standard for nutrient regulation, however, the Department's proposal "translates" the narrative standards to numeric standards for total nitrogen and total phosphorus that are similar to the previous numeric standards and, likewise, not reasonably achievable. Additionally, the Department's proposal adds numeric limits for causal and instream response variables. These revised "narrative" rules work exactly like numeric standards – if a discharger hits or exceeds the threshold number, they are considered in violation of the standard. That is not and was never intended by the legislature to be the narrative standard or the implementation of SB 358. However, it is the interpretation and implementation specifically requested by EPA Region 8:

"One way to provide such assurance would be to adopt a numeric translator for the narrative criterion in rule or to incorporate a numeric translator by reference. For example, MDEQ could adopt protective thresholds for response variables that are scientifically defensible and protective of the applicable designated uses in rule, and incorporate by reference the technical documents that provide a reliable process for deriving TN and TP levels associated with those response variable thresholds." (*Letter from Andrew Todd, Chief, Water Quality Section, Region 8, U.S.EPA to Galen Steffens, Water Quality Planning Bureau Chief, MDEQ, August 18, 2021.*)

This approach does not follow the process set forth in the Clean Water Act, recognizing that the state has primacy in setting water quality standards. Instead, the Department's proposed rules essentially follow the path of the numeric standards that were repealed by SB 358. Because those standards were technologically and economically infeasible, we respectfully ask WPIC to request that the Department prepare an economic impact statement for the proposed rules that includes:

- (1) a description of the classes of persons who will be affected by the proposed rule, including those Montanans that will bear the costs of the proposed rule;
- (2) a description and quantification of the probable economic impact of the proposed rule upon the dischargers, their taxpayers, owners, and shareholders;
- (3) the probable costs to state agencies of the implementation and enforcement of the proposed rule and any anticipated effect on state revenue;
- (4) an analysis comparing the costs and benefits of the proposed rule to the costs and benefits of alternatives to the rule;
- (5) an analysis that determines whether there are less costly or less intrusive methods for achieving the purpose of the proposed rule;
- (6) an analysis of any alternative methods for achieving the purpose of the proposed rule, including those were seriously considered by the agency and the reasons why they were rejected in favor of the proposed rule;

- (7) a determination as to whether the proposed rule represents an efficient allocation of public and private resources; and
- (8) a quantification or description of the data upon which subsections (2)(a) through (2)(g) are based and an explanation of how the data was gathered. (Section 2-4-405(2), MCA.)

The Montana Water Quality Act also specifically requires the Department to ensure that effluent standards meet these thresholds. The Department shall “formulate and adopt standards of water quality, considering the economics of waste treatment and prevention.” (Section 75-5-301(2), MCA.) Further, in adopting effluent standards, “the Department shall ... ensure that the standards are cost-effective and economically, environmentally, and technologically feasible.” (Section 75-5-304(2), MCA.) The Department has not analyzed any of these economic impacts required by the statute in proposing the new nutrient rules.

Since at least September 2021, our members have been providing data and information to DEQ about the impacts of the Department’s proposed course of action to impose technologically unachievable and cost-prohibitive nutrient standards on point source dischargers. By setting nutrient limits, with or without an adaptive management program, the proposed rules will require permittees who discharge to a listed waterbody in Montana to move to the highest levels of treatment. The USEPA itself recognizes that upgrading to these treatment levels requires greater use of chemicals and energy, release more greenhouse gases, generate greater volumes of biosolids residuals for disposal, and require enormous design, construction, and operating costs:

“Careful consideration should be given to the benefits from lower nutrient levels compared to the potential environmental and economic costs associated with treatment processes used to achieve those levels.” (EPA, *Life Cycle and Cost Assessments of Nutrient Removal Technologies in Wastewater Treatment Plants*, August 2021.)

Utilities cannot meet the very low standards proposed in the rules even with the highest levels of treatment currently available. The current version of the rule package includes these unachievable standards in the first permit cycle. Treatment upgrades to attempt to meet them will necessitate huge increases in assessments on the community ratepayers and existing industrial dischargers. The new standards also create a barrier to new industrial and municipal development.

Whereas the Department has contended permittees may obtain a variance or compliance schedule, these are not certain nor permanent solutions. DEQ is required to continually revisit the applicability of the variance and the Ninth Circuit found that variances cannot apply in perpetuity. At some point, every permittee that discharges could be required to pay for and achieve the highest levels of treatment with serious environmental and economic consequences, particularly for smaller communities. Even if that treatment is accomplished, the underlying standards will still not be achieved.

Review the Nutrient Science

Since the passage of SB 358, DEQ has repeatedly informed the Nutrient Working Group and this committee that in developing the new nutrient rules, they “will utilize the existing science of nutrient impacts to Montana's beneficial uses [and] will not revisit the science.” (*Nutrient Work Group Session 1 Meeting Presentation*, May 27, 2021.) While we had hoped that the rule package would allow watershed-specific investigations that consider the specific uses within the watershed and their relationship to nutrient

levels, instead the rule package begins with the premise that the unachievable numeric standards for total nitrogen, total phosphorus, and the response variables all apply at the large-scale ecoregion level. But the relationship between uses and nutrient levels is not clearly defined and is highly variable. For example, the Department listed the middle segment of the Gallatin River as impaired for algae, which indicates that that the river no longer supports recreation. But recreation continues and the river's nutrient levels remain below even the previous numeric standards. That indicates that there are likely other factors beyond what a permitted discharger can control that are leading to algae growth. In such situations, continued lowering of nutrient discharge limits at great cost is not the correct answer, yet under the Department's rule package that is exactly what will occur, with no flexibility for a site-specific solution absent additional rulemaking.

This illustrates a fundamental requirement of SB358 that is lacking in the rule package – a reasonable balance of all factors impacting the water body. We have additional technical concerns, including the subjective nature of measuring at least one response variable (percent bottom cover by filamentous algae), the subjective nature of studies used to establish the threshold level of benthic algal chlorophyll, the creation of a revised biotic index that has not previously been used in mainstream assessments, potential duplication or contradiction of the proposed dissolved oxygen standards with existing dissolved oxygen standards, the applicability and validity of historic nutrient dosing studies (which, among other concerns, was also raised by EPA in their August 18, 2021 letter to DEQ), and whether the numeric standards DEQ crafted represent impairment levels or sensitivity levels. The independent applicability of each of these variables essentially creates new water quality standards for parameters that have not been measured.

Compare the Nutrient Regulation in Other States

To help the Committee understand the extreme position of the rules proposed by DEQ, we suggest that the Committee request that its legislative staff prepare a state-by-state analysis of the nutrient standards adopted and enforced nationwide, or at least by those states within EPA Region 8 as well as neighboring states like Idaho. No other state in Montana's region is required to comply with the type of strict nutrient thresholds – whether adopted as numeric standards or “translated” into response variables – that Montana dischargers are being required to meet. This seems irrational since a significant portion of nutrients in wastewater come from human waste and Montana has one of the lowest populations among the headwaters or Rocky Mountain states. Colorado, where EPA Region 8 is headquartered, recently announced that, due to the apparent impossibility of obtaining the necessary design, construction, and operational services needed to comply with numeric nutrient standards, it has further extended the timeline by which it intends to even begin consideration of numeric nitrogen standards. Of note, Colorado has also created an incentive program to reward dischargers that move forward with the kinds of system improvements that Montana's dischargers have already made.

We have detailed information about the nutrient regulations adopted in each of our surrounding states that have been reviewed and approved by EPA. See Attachment A. However, there may be a benefit to having a wider, neutral, and independent review conducted by your own staff.

In summary, we respectfully request that WPIC object to the proposed rules and direct the department to conduct an economic impact statement of the proposed rules and program while the committee obtains an evaluation of the use of the nutrient science in the proposed rules and a comparison of how other states regulate nutrients. These analyses will allow the Department, the Water Policy Interim Committee (WPIC), the Water Pollution Control Advisory Council (WPCAC), the Nutrient Working Group, the

sponsor of SB 358, and the public to fully understand and consider the economic impacts of and alternatives to the proposed rules prior to their adoption.

Sincerely,



Kelly A. Lynch
Executive Director
Montana League of Cities and Towns



Matt Vincent
Executive Director
Montana Mining Association



Alan Olson
Executive Director
Montana Petroleum Association



John Iverson
Executive Director
Treasure State Resources Association

Enclosure; Attachments

cc:

Honorable Greg Gianforte, Governor of Montana
Honorable Kristen Juras, Lieutenant Governor of Montana
Senator John Esp
Water Pollution Control Advisory Council (WPCAC)
Department of Environmental Quality
Nutrient Work Group

NUTRIENTS EXPLAINED

REALITY

Current levels of nutrients being discharged by the permittees are still leaving “green snot” in the bottom of rivers and still killing fish.

Even if dischargers remove 90% of the nutrients in their effluent, they still add nutrients to the surface water sufficient to cause algae growth that kills fish.

Nutrient standards are needed to ensure that algae growth does not take oxygen away from the fish and kill them.

Montana must regulate nutrients with a numeric value.

Claims that municipalities need to spend more than \$100 million to improve treatment to ensure compliance with the proposed standards are fictitious.

There have been no recorded nutrient related fish kills downstream of treatment plants in Montana. While there is algae in nearly all Montana rivers, many rivers have higher algae densities because there are a wide variety of sources of nutrients in Montana watersheds. This is why SB 358 proposed a watershed approach to nutrient control.

EPA recognizes that moving from base levels of nutrient removal to higher levels of nutrient removal, as the proposed rules require, is the point at which diminishing returns in water quality improvement should be balanced with adverse environmental effects and economic impacts. (*EPA, Life Cycle and Cost Assessments of Nutrient Removal Technologies in Wastewater Treatment Plants, August 2021.*)

Dissolved oxygen standards are in place for discharge permits to protect aquatic life from lack of oxygen. The proposed rules do include a number of water quality indicators that can be monitored and tested to determine the health of a water body, including dissolved oxygen. However, each of those indicators have a hard and fast number that must be met. That is not the flexible watershed approach envisioned by SB 358, nor is it necessary to protect aquatic life. As noted by EPA, once dischargers achieve base levels of nutrient removal, the remaining increment to be removed from wastewater treatment plants comes at an extreme cost with little benefit.

There are no federal numeric nutrient water quality standards and the Clean Water Act does not require numeric nutrient standards. No other state in EPA Region 8 regulates statewide with numeric nutrient water quality-based state standards. No other state in EPA Region 8 regulates with statewide numeric nutrient standards nor permits point source discharges with water quality-based effluent limits. Colorado and Utah use technology-based effluent standards that are both economically and technologically achievable because they recognize that regulating with numeric nutrient standards is infeasible. Wyoming, North Dakota, and South Dakota all use purely narrative nutrient standards.

The proposed rules contain effluent concentrations that require the highest levels of treatment and, at the lowest numbers, are not currently technologically achievable. Although the Department claims these are not the numbers that will be used in discharge permits, the proposed rules do not contain permitting guidance so there is no way to substantiate that claim. Contracted engineers for the communities in Montana have been designing, building, and operating local wastewater facilities for decades. They have provided estimated costs based on their knowledge and experience. For example, continued discharge to the East Gallatin River will require a higher level of treatment at a capital cost of more than \$90M and annual operating cost of more than \$2M (this is in addition to the more than \$55M already invested to get to the current treatment level, which the local taxpayers are still paying off). A mechanical plant capable of removing about 90% of nutrients is estimated to cost a community of 3,000 residents that is currently operating a lagoon more than \$20M; more than \$15,000 per household to pay off over the standard 20-year bonding period.

Summary of Nutrient Regulation in States Near Montana

Compared to other states in the region, Montana is the only state that proposes to apply stringent numeric values for phosphorus and nitrogen across the entire state, effective immediately. Colorado proposes stringent numeric standards, but only for consideration after 2027. In the meantime, Colorado governs dischargers with permit limitations that are achievable and differ for publicly owned treatment works and industrial facilities. Colorado also exempts certain dischargers from the limitations and provides an incentive program that rewards early nutrient reductions. Utah promulgated stringent numeric criteria, but only for perennial headwaters streams. Utah also governs dischargers with permit limitations for phosphorus that are achievable for municipal plants and differ for lagoon or non-lagoon facilities. Idaho, Wyoming, North Dakota, and South Dakota all regulate nutrients with narrative criteria and site-specific values.

Montana’s Proposal: Table 2-3 of Circular DEQ15 (March 8, 2024) proposes values that vary by ecoregion:

- Total Phosphorus values range from 40 to 226 µg/L
- Total Nitrogen values range from 640 to 1,300 µg/L

The text preceding Table 2-3 makes clear that those values are the highest that could protect beneficial uses and that “harm to beneficial uses (e.g. aquatic life) at lower TN and TP concentrations are documented in the scientific literature.” DEQ also states that “either the TN or the TP value may need to be at a lower concentration than shown in the table to ensure full protection” because “[s]imultaneous realization of paired TN and TP concentrations in Table 2-3 could also affect beneficial uses.”

Table 2-3. Ecoregional TP and TN Concentrations Protective of Aquatic Life and Recreation Beneficial Uses. The most sensitive beneficial use associated with the ecoregional concentrations is shown. Also shown are the minimum time periods when the concentrations should be applied.

Region	Ecoregion (Level III)	Ecoregion (Level IV)	Upper Threshold		Most Sensitive Beneficial Use Threshold is Associated With	Applicable Time Period	
			Total Phosphorus (µg/L)	Total Nitrogen (µg/L)		Start of Growing Season	End of Growing Season
Western	Northern Rockies (15)	All	40 ^a	640 ^a	Aquatic Life	July 1	September 30
Western	Canadian Rockies (41)	All	60 ^a				
Western	Idaho Batholith (16)	All					
Western	Middle Rockies (17)	all except 17i					
Western	Middle Rockies (17)	Absaroka-Gallatin Volcanic Mountains (17i)	117 ^c	Apply concentrations less than Middle Rockies (17) ecoregion threshold above	Aquatic Life	July 1	September 30
Transitional	Northwestern Glaciated Plains (42)	Sweetgrass Upland (42i), Milk River Pothole Upland (42n), Rocky Mountain Front Foothill Potholes (42q), and Foothill Grassland (42r)	226 ^d	640 ^a	Aquatic Life	July 1	September 30
Transitional	Northwestern Great Plains (43)	Non-calcareous Foothill Grassland (43s), Shields-Smith Valleys (43t), Limy Foothill Grassland (43u), Pryor-Bighorn Foothills (43v), and Unglaciated Montana High Plains (43o) ^a	41 ^e	640 ^a	Aquatic Life	July 1	September 30
Eastern	Northwestern Glaciated Plains (42)	all except those listed above as transitional for 42	150 ^f	1300 ^g	Aquatic Life	June 16	September 30
Eastern	Northwestern Great Plains (43) and Wyoming Basin (18)	all except for those listed above as transitional for 43, and 43c below				July 1	September 30
Eastern	Northwestern Great Plains (43)	River Breaks (43c)	Narrative Nutrient Standards Apply	Narrative Nutrient Standards Apply		June 16	September 30

Colorado: 5 CCR 1002-31:31:17 NUTRIENTS; 5 CCR 1002-31:31:Table V; 5 CCR 1002-31:31:Table VI; and 5 CCR 1002-85:85.5 SPECIFIC LIMITATIONS FOR DISCHARGERS OF NUTRIENTS

Colorado adopted a phased approach that allows numeric values to be considered for adoption after 2027. The values may be considered prior to that only in certain circumstances, including for waters upstream of permitted domestic wastewater treatment facilities. EPA has not acted on the phased

approach. EPA approved Colorado's use of "the annual median of the daily average flows with a 1 in 5 year recurrence interval" as the critical flow to be used when implementing the standard in permits (i.e.: when conducting a reasonable potential analysis). The deferred values, to be considered for adoption as standards after 2027 are:

- Rivers and streams interim standard (EPA has not acted on these numbers):
 - Algae standard for rivers and streams applies July 1 through September 30:
 - 150 mg/m² Chlorophyll *a* (applies July 1 through September 30)
 - Cold water rivers and streams:
 - 110 µg/L phosphorus
 - 1,250 µg/L nitrogen
 - Warm water rivers and streams:
 - 170 µg/L phosphorus
 - 2,010 µg/L nitrogen
- Lakes and Reservoirs:
 - Direct use waters
 - 0.005 mg/L Chlorophyll *a* for, March 1 – November 30, annual seasonal average
 - Cold water lakes and reservoirs greater than 25 acres in surface area
 - 0.008 mg/L Chlorophyll *a* for cold water
 - 21 µg/L phosphorus
 - 380 µg/L nitrogen
 - Warm water lakes and reservoirs greater than 25 acres in surface area
 - 0.020 mg/L Chlorophyll *a*
 - 47 µg/L phosphorus
 - 670 µg/L nitrogen

In the meantime, the following effluent limitations apply to Wastewater Treatment Works on two bases: the rolling annual median limit and the 95th percentile of all samples taken in the most recent 12 months:

- Domestic Wastewater Treatment Works are subject to limitations:
 - Total Phosphorus 1,000 µg/L annual median; 2,500 µg/L 95th percentile
 - Total Inorganic Nitrogen 15,000 µg/L annual media; 20,000 µg/L 95th percentile
 - Facilities are exempt from the limits:
 - If the design capacity is less than or equal to 1.0 million gallons per day
 - If the system is owned by a disadvantaged community
 - Delayed Implementation of effluent limits until 2027 for:
 - Permitted facilities subject to Watershed Protection Control Regulations
 - Facilities with a design capacity less than or equal to 2.0 mgd
 - Existing permitted facilities discharging into low priority watersheds
 - New facilities are subject to limitations:
 - Total Phosphorus 700 µg/L annual median; 1,750 µg/L 95th percentile
 - Total Nitrogen 7,000 µg/L annual median; 14,000 µg/L 95th percentile
- Non-Domestic Wastewater Treatment Works
 - Facilities within SIC Code 20 (food and kindred products):
 - Total Phosphorus at 10,000 µg/L annual median; 25,000 µg/L 95th percentile
 - Total Inorganic Nitrogen at 20,000 µg/L annual median; 27,000 µg/L 95th percentile
 - Other Non-Domestic facilities determined to discharge in excess of the following will be subject to the following as limitations:

- Total Phosphorus 1,000 µg/L annual median; 2,500 µg/L 95th percentile
 - Total Inorganic Nitrogen 15,000 µg/L annual median; 20,000 µg/L 95th percentile
- Existing facilities discharging to low priority watersheds are exempt from the limitations until after 2027.
- New facilities within SIC code 20 (food and kindred products):
 - Total Phosphorus 5,000 µg/L annual median; 13,000 µg/L 95th percentile
 - Total Inorganic Nitrogen 10,000 µg/L annual median; 20,000 µg/L 95th percentile
- New facilities not in SIC code 20, determined to discharge in excess of the following will be subject to the following as limitations:
 - Total Phosphorus 700 µg/L annual median; 1,750 µg/L 95th percentile
 - Total Inorganic Nitrogen 7,000 µg/L annual median; 14,000 µg/L 95th percentile
- Specific provisions exist for compliance schedules, exceptions to the interim limitations, variances, nutrient trading, MS4 nutrient source reductions, BMPs and public information for nonpoint source discharges.
- A voluntary incentive program is offered that allows facilities to delay permit limits beyond 2027 based on increased treatment and improved effluent quality.

Idaho:¹ Idaho Admin. Code R. 58.01.02.200.06

Surface waters of the state shall be free from excess nutrients that can cause visible slime growths or other nuisance aquatic growths impairing designated beneficial uses.

North Dakota: ND ADC 33.1-16-02.1-08.1.a.(6).

All waters of the state shall be... "Free from nutrients attributed to municipal, industrial, or other discharges or agricultural practices, in concentrations or loadings which will cause accelerated eutrophication resulting in the objectionable growth of aquatic vegetation or algae or other impairments to the extent that it threatens public health or welfare or impairs present or future beneficial uses."

- "Eutrophication" means the process of enrichment of rivers, streams, lakes, reservoirs, and wetlands with nutrients needed to maintain primary production.
- "Nutrients" mean the chemical elements, primarily nitrogen and phosphorus, which are critical to the growth of aquatic plants and animals.

South Dakota: S.D. Admin. R. 74:51:01:09

Materials which produce nuisance aquatic life may not be discharged or caused to be discharged into surface waters of the state in concentrations that impair an existing or designated beneficial use or create a human health problem.

Utah: Utah Admin. Code R. R317-2-14, Tables 2.14.7 and 2.14.8; Utah Admin. Code R. R317-1-3
 Numeric criteria apply only to perennial headwaters streams:

- For Classes 2A and 2B (recreation protected) headwaters:
 - 125 mg/m² chlorophyll-*a*; or
 - 49 g/m² ash free dry mass
- For Classes 3A, 3B, 3C, and 3D headwaters:
 - For low and moderate enrichment headwater perennial streams:
Total Phosphorus 35 µg/L and Total Nitrogen 400 µg/L
 - For moderate and high enrichment headwater perennial streams:
Total Phosphorus 80 µg/L and Total Nitrogen 800 µg/L and:

¹ Idaho is in EPA Region 10, the other states listed are all in Region 8 like Montana.

- 33% cover filamentous algae; or
- 6g O₂/m²-day gross primary production; or
- 5 g O₂/m²-day ecosystem respiration.

Technology Based Effluent Limitations for Phosphorus apply to dischargers:

- 1,000 µg/L total phosphorus for non-lagoon facilities
- cap at 125% of the current annual total phosphorus load for discharging lagoons

Variances are allowed, but only until 2025.

Facilities that optimize for nitrogen removal may receive a waiver of up to 10 years from requirements to meet total inorganic nitrogen effluent limitations.

Wyoming: Wyo. Admin. Code 020.0011.1 § 28

All Wyoming surface waters shall be free from substances and conditions or combinations thereof which are attributable to or influenced by the activities of man, in concentrations which produce undesirable aquatic life.