

**BOARD OF ENVIRONMENTAL REVIEW
AGENDA ITEM
EXECUTIVE SUMMARY FOR PROPOSED RULE AMENDMENTS**

Agenda Item # III.B.1.

Agenda Item Summary – The Department requests that the Board:

(1) initiate rulemaking to adopt changes to Department Circular DEQ-7 (DEQ-7), which is incorporated by reference in ARM 17.24.645, 17.24.646, 17.30.502, 17.30.619, 17.30.702, and 17.30.1001;

(2) initiate rulemaking to amend ARM 17.30.607 through 17.30.611, 17.30.621 through 17.30.629, 17.30.650 through 17.30.657, and 17.30.715, which are included in the surface water quality standard and nondegradation rules found in ARM Title 17, Chapter 30, Subchapters 6 and 7; and

(3) adopt responses to comments received during the 2016 triennial review.

Because DEQ-7 is incorporated by reference in rules adopted by the Department under the sanitation in subdivision, state superfund, and solid waste statutes, this would be a joint Board/Department rulemaking.

List of Affected Board Rules – ARM 17.24.645, 17.24.646, 17.30.502, 17.30.607 through 17.30.611, 17.30.619, 17.30.621 through 17.30.629, 17.30.650 through 17.30.657, 17.30.702, 17.30.715, and 17.30.1001.

List of Affected Department Rules – ARM 17.36.345, 17.55.109, 17.56.507, 17.56.608 (all changes are incorporation by reference of DEQ-7 and updates to the more current version of 40 CFR 136).

Affected Parties Summary – These proposed changes may affect parties applying for discharge permits to state waters; parties required to remediate or monitor surface or ground water quality due to real or potential contamination from remediation sites, including underground storage tank sites; and parties subject to plan review for public water supply, wastewater treatment systems, or subdivisions. Also affected would be strip and underground mine sites required to monitor ground water and surface water. Additionally, the agricultural community may be affected by the proposed changes and additions to pesticide standards.

Background – Montana Code Annotated 75-5-301 requires that the Board review Montana's water quality standards at least every three years and revise the water quality standards as necessary and appropriate. The Board held a 60-day comment period and subsequent public hearing inviting comments on Montana's water quality standards. The public comment period closed June 3, 2016. DEQ received comments that pertained to Montana's water quality standards from five parties. DEQ-7 and several water quality standards rules have been proposed for amendment in response to DEQ needs, public comment, and federal requirements.

In general, the amendments to Department Circular DEQ-7 are being proposed to ensure that the numeric water quality criteria reflect the best current science, to correct errors, to provide clarity and consistency of terminology, and to avoid duplication with narrative standards in the surface water rules.

The proposed changes to DEQ-7 include several grammar, wordsmithing, and technical edits, error corrections, and reference updates. Changes also include adoption of 80 new and updated National Recommended Water Quality Criteria (NRWQC) for the protection of human health, 67 updated pesticide health advisories recalculated based on EPA's new human exposure inputs, five new pesticide health advisories, five updated maximum contaminant levels (human health), and two new NRWQC for the protection of aquatic life. The sources of information for 17 human health criteria have changed. The toxic and carcinogenic categories of four pollutants have changed. Additionally, references to four narrative criteria in ARM 17.30 subchapter 6 have been removed.

The proposed revisions to Subchapters 6 and 7 of the water quality rules fall into four categories: (1) addition of "most probable number" (mpn) as acceptable units for E. coli measurements; (2) modification of surface water classifications to more specifically define start and end points (by latitude and longitude) and to remove tribal waters from Montana's use classifications because Montana does not have jurisdiction over tribal waters and respects standards imposed by the jurisdictional agencies for these waters; (3) incorporation by reference of the compliance schedule authorizing provision in the Montana Pollutant Discharge Elimination System rules, and amendment of the 40 CFR 136 reference in several rules to the more current 2015 version of the regulation; and (4) clarification in the nondegradation rules that the Clark Fork River is subject to nondegradation review for nutrients.

Hearing Information – The Department recommends that the Board appoint a hearing officer and conduct a public hearing to take comment on the proposed amendments.

Board Options – The Board may:

1. Initiate rulemaking and issue the attached notice of public hearing on the proposed amendments;
2. Determine that amendment of the rules is not appropriate and decline to initiate rulemaking, or;
3. Modify the notice and initiate rulemaking; and
4. Adopt or not adopt the responses to comment on the triennial review.

DEQ Recommendation – The Department recommends that the Board:

1. Initiate rulemaking, as proposed in the attached notice of public hearing, and appoint a hearing officer; and
2. Adopt the responses to comment.

Enclosures –

1. Draft Notice of Public Hearing on Proposed Amendment
2. Final Draft of Department Circular DEQ-7
3. Summarized triennial review comments and responses
4. Comment letters received during the triennial review public comment period



June 1, 2016

Amy Steinmetz
Department of Environmental Quality
P.O. Box 200901
Helena, Montana, 59620-0901

Re: Triennial Review of Water Quality Standards

Dear Ms. Steinmetz,

Thank you for this opportunity to provide comments on the items to be considered during the Montana Department of Environmental Quality's (DEQ) 2016 Triennial Review of aquatic life water quality standards, on behalf of our client, the Copper Development Association (CDA). CDA played a significant role in sponsoring scientific research used in the development of the freshwater Biotic Ligand Model (BLM) for copper, which was adopted by the United States Environmental Protection Agency (USEPA) as the basis for its latest nationally recommended freshwater aquatic life ambient water quality criteria for copper (USEPA 2007).

It is our understanding that the DEQ is in the process of accepting comments on topics to consider during their 2016 Triennial Review of the Water Quality Standards. The purpose of this letter is to strongly encourage the DEQ to consider updating their standards to allow the use of BLM to calculate aquatic life criteria for copper, which is not only currently recommended by USEPA, but would also be consistent with the DEQ's Environmental Performance Partnership Agreement with USEPA Region 8 (MTDEQ 2013).

With respect to the possible amendments to water quality standards, we suggest the following addition:

- Add a new footnote to the acute and chronic copper aquatic life criteria entries in Circular DEQ-7, Montana Numeric Water Quality Standards that would state: "Freshwater copper criteria may be calculated utilizing the procedures identified in EPA's Aquatic Life Ambient Freshwater Quality Criteria – Copper (2007), EPA-822-R-07-001."

Incorporation of the BLM as the basis for copper standards has already been adopted, or is being considered, by over half the states across the country. Montana's current aquatic life criteria used to derive copper standards only take into account hardness as a factor that modifies toxicity. Using only hardness as a modifying factor for metals criteria is an outdated approach that excludes a substantial body of peer-reviewed scientific literature demonstrating that additional modifying factors can and should be incorporated into regulatory benchmarks or standards, while providing the same levels of aquatic life protection required under the Clean Water Act (USEPA 1985, 1994, 2001, 2007). Like most metals, copper toxicity is a function of its bioavailability, which in addition to being controlled by hardness, is also strongly related to other important factors such as dissolved organic carbon (DOC), alkalinity, pH, and temperature. The key strength of the BLM is that it accounts for multiple factors—in addition to hardness—that mitigate or exacerbate copper's toxic effect on aquatic life.

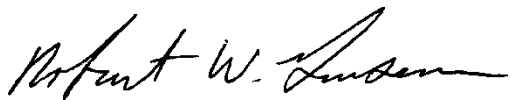
Similar to copper, BLMs have been developed, validated, and are available for regulatory use for several other metals, including zinc, lead, nickel, and cadmium. While EPA has yet to develop formal recommended national ambient water quality criteria using BLMs for these other metals, the models are widely available (e.g., for zinc BLM-based criteria, see DeForest and Van Genderen 2012) and are being applied in regulatory programs in several European countries. CDA fully supports and shares their desire

to move towards bioavailability models, such as the BLM, as being the current state of both scientific and regulatory practice.

There also are practical advantages for using the BLM; it is a cost effective regulatory tool compared to other site-specific toxicity test procedures (e.g., water-effect ratios), and the BLM software is publicly available, sanctioned by USEPA, and requires only brief training to generate rapid and useable output. While the model is widely considered to be useful for derivation of site-specific water quality criteria, we suggest its best application is on a state-wide basis for any discharger with sufficient water quality data to run the BLM. This would enable individual permit writers and permittees to collaborate directly to use the BLM to derive permit limits, thereby minimizing or eliminating the need to go through a lengthy and expensive rulemaking process. BLM-based criteria provide a practical means of deriving demonstrably more accurate levels of aquatic life protection across a broad range of water quality conditions, and with sufficient flexibility to support most any regulatory application framework.

We appreciate the opportunity to provide comments on the topic to consider for updating Montana's water quality standards. Please let us know if you have any questions. We look forward to discussing this with you further.

Sincerely,
GEI CONSULTANTS, INC.



Robert W. Gensemer, Ph.D., GEI
Senior Ecotoxicologist



Carrie Claytor, CDA
Director of Health, Environment and Sustainable Development

RWG

cc: Steven Canton, GEI
John Gondek, GEI
David DeForest, Windward Environmental
Eric Van Genderen, International Zinc Association



References

- DeForest, D.K., and E.J. Van Genderen. 2012. Application of U.S. EPA guidelines in a bioavailability-based assessment of ambient water quality criteria for zinc in freshwater. *Environ. Toxicol. Chem.* 31(6):1264-1272.
- Montana Department of Environmental Quality (MTDEQ). 2013. 2013 - 2015 Montana Environmental Performance Partnership Agreement between the Montana Department of Environmental Quality and US Environmental Protection Agency Region VIII. Effective July 1, 2013
- U.S. Environmental Protection Agency (USEPA). 1985. Guidelines for deriving numerical national water quality criteria for the protection of the aquatic organisms and their uses. PB85-227049, U.S. Environmental Protection Agency, Washington, DC.
- U.S. Environmental Protection Agency (USEPA). 1994. Interim guidance on determination and use of water-effect ratios for metals. EPA-823-B-94-001, U.S. Environmental Protection Agency, Washington, D.C.
- U.S. Environmental Protection Agency (USEPA). 2001. Streamlined water-effect ratio procedure for discharges of copper. EPA-822-R001-005, U.S. Environmental Protection Agency, Washington, D.C.
- U.S. Environmental Protection Agency (USEPA). 2007. Aquatic Life Ambient Freshwater Quality Criteria – Copper. EPA-822-R-07-001. U.S. Environmental Protection Agency, Washington, D.C.
- U.S. Environmental Protection Agency. 2012. Calculation of BLM Fixed Monitoring Benchmarks for copper at selected monitoring sites in Colorado. EPA 820-R-12-009. U.S. Environmental Protection Agency, Washington, D.C.



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MAY 13 2016

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Re: EPA Comments on Triennial Review of Montana's Water Quality Standards

Dear Ms. Steinmetz:

This letter provides comments of the U.S. Environmental Protection Agency for the public comment period on the triennial review of Montana's water quality standards (WQS). As you know, in August 2015 the EPA revised the WQS regulation (40 CFR Part 131).¹ The previous regulation had been in place since 1983. The following key program areas are addressed in the final rule: (1) triennial reviews of state and tribal WQS, (2) provisions authorizing the use of schedules of compliance for water quality-based effluent limits (WQBELs) in National Pollutant Discharge Elimination System (NPDES) permits, (3) WQS variances, (4) designated uses for water bodies, (5) antidegradation requirements, and (6) the EPA Administrator's determinations that new or revised water quality standards are necessary. The revised regulation became effective on October 20, 2015. In addition, the EPA published *Priorities for Water Quality Standards and Criteria Programs, FY 2017-2018* for states and tribes to consider.² The comments below identify opportunities to align Montana's WQS with the revised EPA regulation and make other program improvements.

Triennial Reviews

Public Hearings

The triennial review requirement in the EPA WQS regulation (40 CFR § 131.20(a)) was updated to clarify the required scope for each review. Specifically, the EPA clarified that states and authorized tribes must from time to time, but at least once every three years, hold public hearings that allow for public input on all applicable WQS adopted into state or tribal law pursuant to 40 CFR § 131.10 - § 131.15, as well as any federally promulgated WQS. The April 4, 2016 public notice solicited comments "on any aspect of Montana's water quality standards" consistent with this requirement. The

¹ See 80 Fed. Reg. 51020 (August 21, 2015). This notice and supplemental materials are available at <http://www.epa.gov/wqs-tech/final-rulemaking-update-national-water-quality-standards-regulation>.

² Available at: <https://www.epa.gov/wqs-tech/priorities-water-quality-criteria-and-standards-programs-fy-2017-2018>.

final rule also clarified a public hearing is required when (1) reviewing WQS per § 131.20(a); (2) when revising WQS as a result of reviewing WQS per § 131.20(a); and (3) whenever revising WQS, regardless of whether the revision is a result of triennial review per § 131.20(a). The EPA recommends MDEQ review state law for any conflicts with the requirements of 40 CFR § 131.20 and 40 CFR Part 25 and ensure the public participation for the triennial review is consistent with these requirements.

New or Updated Section 304(a) Criteria Recommendations

One of the updates to the EPA's WQS regulation requires states and authorized tribes to provide an explanation if not adopting new or revised criteria for parameters for which the EPA has published new or updated Clean Water Act (CWA) section 304(a) criteria recommendations (40 CFR § 131.20(a)). This change was made to foster meaningful and transparent involvement of the public and intergovernmental coordination with local, state, federal, and tribal entities in light of recent science provided by EPA through its criteria recommendations. The EPA will not approve or disapprove this explanation. For Montana's current triennial review, the state will need to provide explanations where new or revised criteria are not adopted for parameters where EPA has published new or updated CWA section 304(a) criteria recommendations since May 30, 2000, regardless of whether the criteria are more stringent or less stringent than the state's applicable criteria. The EPA provided a list of those parameters that have been published between May 30, 2000 and August 21, 2015.³ Since the publication of this list, the EPA also published updated CWA section 304(a) aquatic life criteria recommendations for cadmium.⁴

The EPA notes that for several of the parameters for which EPA has published new/updated section 304(a) human health criteria recommendations, Montana has adopted the more stringent Maximum Contaminant Level (MCL) established by the EPA under the Safe Drinking Water Act. The EPA supports retaining MCLs where they are more stringent than the Section 304(a) criteria. For a pollutant for which the EPA has not published a recommended section 304(a) criterion for "water and organisms" and for which the EPA has promulgated a Maximum Contaminant Level Goal (MCLG), the EPA generally recommends the MCLG for noncarcinogenic pollutants, or a criterion derived by recalculating the MCLG at an acceptable cancer risk level. The EPA does not recommend that the MCL be used where consideration of available treatment technology, costs, or availability of analytical methodologies has resulted in a MCL that is less protective than a MCLG.⁵ The EPA recommends Montana review the criteria in Circular DEQ-7 that are based on a MCL to ensure consistency with the recommendations above.

Compliance Schedule Authorizing Provision

The EPA's final rule requires that if states intend to authorize the use of compliance schedules for water quality-based effluent limits in NPDES permits, the state must adopt a permit compliance schedule authorizing provision and submit it to the EPA for review and action under Clean Water Act § 303. Montana adopted a compliance schedule authorizing provision in its Montana Pollutant Discharge Elimination System Permit regulations at ARM 17.30.1350 in 1992, but this was never submitted to the

³ See <https://wcms.epa.gov/sites/production/files/2015-08/documents/supplement-information-cwa-304a-2015.pdf>.

⁴ See <https://www.epa.gov/sites/production/files/2016-03/documents/cadmium-final-factsheet.pdf>.

⁵ See 65 Fed. Reg. 66444, 66450-66451 (November 3, 2000) available at <https://www.gpo.gov/fdsys/pkg/FR-2000-11-03/pdf/00-27924.pdf>.

EPA for review and action as a WQS. Therefore, the EPA recommends that Montana work with EPA to obtain CWA section 303(c) approval of this legally binding compliance schedule authorizing provision.

Variances

The new rule added a new section at 40 CFR § 131.14 that explicitly authorizes the use of WQS variances when the applicable designated uses are not attainable in the near-term, but may be attainable in the future. The rule also includes additional requirements, such as the information that a state or authorized tribe must adopt in any WQS variance, including the highest attainable condition. States and authorized tribes must submit supporting documentation to the EPA that demonstrates why the WQS variance is needed and justifies the term and interim requirements. WQS variances longer than five years must be reevaluated at least every five years after the EPA approval with an opportunity for public input. Montana adopted general variances for public and private dischargers applicable for up to 20 years to waters with numeric nutrient criteria, which the EPA approved in February 2015 (prior to the effective date of the new rule). Therefore, the requirements of the new rule do not apply to those approved general variances. If the state revises those general variances, such that a new economic demonstration is needed, MT would need to meet the new 40 CFR § 131.14 requirements. Similarly, if the state adopts individual variances as outlined in the procedures in DEQ-12B, those individual variances must comply with the new requirements of 40 CFR § 131.14.

Updated Exposure Inputs for Human Health Criteria

The EPA's 2015 Update for Human Health Ambient Water Quality Criteria includes updated exposure inputs for body weight (80 kg), drinking water consumption rate (2.4 L), and fish consumption (22 grams per day).⁶ The EPA recommends updating the references to these exposure inputs in Circular DEQ-7. In addition, the EPA recommends recalculating the pesticide criteria in Circular DEQ-7 (indicated by the (HA)) that used the EPA's previously recommended exposure inputs.

Clarifying Designated Uses and Criteria

Montana has 17 different use classes that group different designated uses together. Currently, criteria are linked to the use class, as opposed to specific designated uses. The EPA's WQS regulation defines criteria as "elements of State water quality standards, expressed as constituent concentrations, levels, or narrative statements, representing a quality of water that supports a particular use" (40 CFR § 131.3(b)). In working with MDEQ, the EPA has identified several areas where the designated uses and/or criteria that apply are not clear, making consistent implementation of WQS difficult. For example, Class A-1, and all Class B and Class C state: "Concentrations of carcinogenic, bioconcentrating, toxic, radioactive, nutrient, or harmful parameters may not exceed the applicable standards set forth in Department Circular DEQ-7 and, unless a nutrient standards variance has been granted, Department Circular DEQ-12A." However, the "applicable" standards are not specified, therefore it is not clear which criteria in Circular DEQ-7 or DEQ-12A apply to which designated use. Similarly, several use classes use the term "marginal" to describe a designated use, however this term is not defined, nor is it clear how the criteria for "marginal" uses differs from those that are not "marginal." The EPA recommends Montana clarify which criteria apply to which designated uses. There are numerous ways this could be accomplished in the WQS, and the EPA is open to further discussion of options with the state.

⁶ See <http://www.epa.gov/sites/production/files/2015-10/documents/human-health-2015-update-factsheet.pdf>.

Antidegradation

Antidegradation, which Montana calls nondegradation, is an integral part of WQS, as it provides important protections that are critical to the fulfillment of the Clean Water Act objective “to restore and *maintain* the chemical, physical, and biological integrity of the Nation’s waters” [emphasis added]. The Federal antidegradation provisions (40 CFR § 131.12) establish three levels of water quality protection that are commonly referred to as Tier 1, Tier 2, and Tier 3. The revisions to the EPA’s WQS regulation did not alter the three levels of water quality protection, but added more specific requirements pertaining to the identification of high quality waters and an analysis of alternatives when determining if a lowering of water quality is necessary when protecting Tier 2 waters. The goal of Tier 2 is to protect high quality waters, in other words those with assimilative capacity (the amount by which the water body exceeds the quality necessary to protect a given use).

The EPA recommends the state review the revisions to the EPA’s WQS regulation, EPA’s previous guidance,⁷ and relevant case law⁸ and consider improvements to its nondegradation program such as: (1) defining significance thresholds (ARM 17.30.715) in terms of significance (i.e., proposed activities that would require Tier 2 review) rather than nonsignificance, (2) defining significance thresholds in terms of assimilative capacity rather than the magnitude of the proposed increase, (3) revising significance thresholds to ensure only insignificant degradation is allowed under exceptions to Tier 2 review, and (4) adopting a cumulative cap on the use of total assimilative capacity.

Downstream Use Protection

Pursuant to sections 303 and 101(a) of the Clean Water Act, the federal regulation at 40 CFR § 131.10(b) requires that “In designating uses of a water body and the appropriate criteria for those uses, the State shall take into consideration the water quality standards of downstream waters and shall ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters.” This provision requires states and authorized tribes to consider and ensure the attainment and maintenance of downstream⁹ WQS during the establishment of designated uses and water quality criteria in upstream¹⁰ waters. Montana can adopt either narrative or numeric criteria to ensure the attainment and maintenance of downstream WQS (i.e., designated uses, criteria and antidegradation requirements). In 2014, the EPA developed Frequently Asked Questions and a Decision Tool that includes customizable templates for narrative downstream protection criteria to assist states/tribes with this effort.¹¹ These templates may be used to develop a “broad narrative” that provides basic legal coverage under 40 CFR § 131.10(b) (e.g., applies to all waters in the state/tribe) as well as a variety of “tailored narratives” that can be developed to address specific water bodies, pollutants, and/or

⁷ U.S. Environmental Protection Agency Memorandum, “Tier 2 Antidegradation Reviews and Significance Thresholds,” from Ephraim S. King, Office of Science and Technology, to Water Management Division Directors, Region 1-10 (Aug. 10, 2005), available at: <http://www.epa.gov/sites/production/files/2014-10/documents/tier2.pdf>.

⁸ See, e.g., *Ky. Waterways Alliance v. Johnson*, 540 F. 3d 466, 483 (6th Cir. 2008) and *Ohio Valley Envtl. Coal. v. Horinko*, 279 F. Supp. 2d 732 (S.D. W.Va. 2003).

⁹ The EPA interprets the term “downstream” to include both intra- and interstate waters, as well as waters that form a boundary between adjacent jurisdictions.

¹⁰ The term “upstream” includes “instream” when referring to the water body(ies) for which states/tribes are developing designated uses/water quality criteria that will ensure the attainment and maintenance of downstream WQS.

¹¹ See <http://www.epa.gov/wqs-tech/decision-tool-downstream-water-quality-protection>.

water body types. The EPA recommends Montana review this material and consider adoption of a broad narrative to protect downstream WQS.

Natural Conditions

The EPA is aware that MDEQ started a Senate Bill 325 rulemaking workgroup to address the new MCA 75-5-222. This section addresses state regulation for natural conditions. In addition, MDEQ is developing revised EC and SAR site-specific criteria for Otter Creek, a tributary to the Tongue River, based on natural conditions. The EPA's WQS regulation allows states and authorized tribes to establish subcategories of a designated use, remove a designated use that is not existing use, or adopt variances where "naturally occurring pollutant concentrations prevent the attainment of the use" (40 CFR § 131.10(g)(1)). States and authorized tribes may also establish numeric criteria to reflect site-specific conditions by modifying the EPA's 304(a) guidance or by using other scientifically defensible methods (40 CFR § 131.11(b)(1)). The EPA will continue to participate in these efforts to assist MDEQ in developing rules consistent with the CWA and the EPA's WQS regulation at 40 CFR Part 131. Any new/revised WQS that result from these efforts must meet the public participation requirements of 40 CFR Part 131 and 40 CFR Part 25, and be submitted to the EPA for review/action under CWA § 303(c). Only after EPA approval would any new/revised WQS be effective for CWA purposes and implementable in the other CWA programs.

Conclusion

We thank MDEQ for its efforts to maintain and improve water quality in Montana. Please note that our positions are preliminary in nature and should not be interpreted as final EPA decisions under CWA § 303(c). If you have any questions, please contact Tonya Fish on my staff at (303) 312-6832 or fish.tonya@epa.gov.

Sincerely,



Sandra D. Spence, Chief
Water Quality Unit



Questionable Science:

Further limiting total nitrogen contributions from Public Owned Treatment Works (POTW)

Several years ago I had the privilege of serving on the Flathead Lake TMDL Technical Advisory Committee with other stakeholders and representatives of the DEQ. The TAC relied heavily on the excellent work of Dr. Jack Stanford and Bonnie Ellis of the Flathead Lake Biological Station. At one of our last meetings to finalize the draft recommendations, based on over a year of meetings and data analysis, Dr. Stanford presented a pie chart of the nutrient (nitrogen and phosphorus) inputs to Flathead Lake which showed that all the Flathead Valley POTW's combined contributed less than 2 percent of the overall loading of nitrogen and phosphorus. Dr. Stanford's point was that we could spend millions more to reduce that nutrient contribution even more and still not effectively mitigate the decline in lake water quality. I will never forget that during his presentation Dr. Stanford asked the DEQ representative, Christian Levine what he thought DEQ's response to the information might be. Mr. Levine responded that DEQ would ratchet down the nutrient limits on the POTW's. Dr. Stanford stood in disbelief, looked at the charts and looked back at Christian and asked if he had paid any attention. Dr. Stanford then commented that since that would have little to no mitigating effect on the anabaena (blue-green algae) blooms in Flathead Lake why would DEQ take that approach? Mr. Levine's response: "Because we can." Mr. Levine went on to say that no one at DEQ was prepared to take on agriculture or any of the other contributors.

DEQ cannot continue to force the POTW's to shoulder all the burden and cost of cleaning up the lakes, rivers and streams. The millions more spent to reduce total nitrogen and further limit phosphorus contributions at the POTW's will have little to no effect on the quality without addressing the other sources of contamination. You will price the POTW's out of the business of keeping the rest of the pollutants out of our environment when people choose to locate just out of reach of the community wastewater collection systems and put in septic systems and gravel roads.

All the members of the BER and DEQ should take the time to read "A personal history of the Experimental Lakes Project: Forty Years of Aquatic Research at the Experimental Lakes Area" by Dr. David W. Schindler, *Canadian Journal of Fisheries and Aquatic Sciences*, 2009, 66(11): 1837-1847. <http://www.nrcresearchpress.com/toc/cjfas/66/11>

To save your valuable time let me provide a quote from Dr. Schindler, a world renowned limnologist, in his perspective on their 40 years of eutrophication experiments "**Today, there are many documented cases of lakes that have recovered from eutrophication as the result of controlling phosphorus (reviewed by Schindler and Vallentyne 2008). There are no documented cases of where control of any other nutrient has caused a lake to become less eutrophic. But there are many who are still confused by the relatively simple concept that at whole-lake scales, physiological evidence of nitrogen or carbon limitation is evidence that the lake is overfertilized with phosphorus, not that nitrogen or carbon must be controlled to reduce eutrophication.**"

Amy Steinmetz
Board of Environmental Review
Department of Environmental Quality
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June 2, 2016

Subject: June 3, 2016 Public Hearing on Water Quality Standards
Board of Environmental Review

Dear Board of Environmental Review,

Thank you for the opportunity to provide comments on Water Quality Standards for your public hearing on June 3, which I will be unable to attend. Although I am retired from public service, I have a strong interest in this area having been at the implementation level of the Safe Drinking Water Act and Clean Water Act in my career as a professional engineer. I have also served on the DEQ's Nutrient Standards Advisory Workgroup, Montana League of Cities Water Quality Committee, Lewis and Clark County Water Quality Protection District Board, DEQ's MS4 Storm Water Advisory Committee, and, the Montana Environmental Information Center Board. So, I hope you will recognize my knowledge and experience relative to water quality standards.

Our water quality laws are a compromise between the interests of mining, industry, public health and environmental health. As such, I am disheartened when I see the clear laws legislated in Montana Code further compromised by administrative rules and circulars and that wholly favor industry, mining and development interests and that allow the continuing degradation of surface and ground waters.

The other compromising aspect of the water quality standards implementation is the permitting process itself. Although there is a process to allow public input to most permitting activities, the DEQ is seldom responsive to substantive comments to proposed water quality discharge permits. This puts an extreme burden on the public and non-profit advocacy groups as there is no other recourse but to pursue the full implementation of our water quality laws in the legal system, after a permit is issued. Sadly for the state and taxpayer, the DEQ does not have a good track record of winning these lawsuits. Equally sad for water quality is that most permits issued by DEQ go unchallenged.

I hope the Board will take a close look at all the ARM's and Circulars relative to consistency with the clear language of MCA and our constitutional right to a clean and healthful environment. That being said, I would like to bring your attention to a couple specific issues.

The first issue has to do with the development of Groundwater Waste Discharge Permits. The DEQ is not analyzing the impacts of permitted groundwater discharges relative to degradation of hydrologically connected surface waters as required by MCA. The DEQ is also not analyzing the cumulative effects of other permitted groundwater discharges relative to aquifer water quality as required by MCA.

Both of these issues have been brought forward to DEQ on various permit applications. On a recent permit application for a box store development near Hamilton and the Bitterroot River, the permit was issued without modification ignoring substantive public comments from the 100 or so people in attendance. The permit was subsequently revoked by court order on May 16th of this year (Bitterrooters for Planning v. MDEQ attached). I would encourage the Board to review this decision and direct staff to revise their standards and permit process to fully comply with the requirements of MCA.

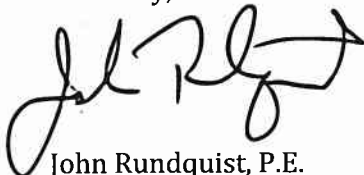
Most disturbingly however, I recently received notice that DEQ is now in the process of approving a general permit for existing and new groundwater waste discharge systems that again does not address the cumulative effects of pollution to aquifers and surface water degradation to hydrologically connected streams. In light of recent litigation, it would appear that the DEQ is attempting to gain authority to approve these systems individually without public oversight to avoid accountability to MCA's.

The other issue has to do with Subdivision approvals and storm water discharges. At a presentation in January to by the DEQ Subdivision Review Bureau to the MS4 Storm Water Workgroup, we were told by the section supervisor that DEQ's review of subdivisions and storm water is only authorized by the "Sanitation and Subdivisions Act" to the extent necessary to insure that storm water generated from new subdivisions will not cause flooding issues and that DEQ does not consider the water quality impacts of runoff from new subdivisions in their approvals.

After this presentation I took a close look at the MCA 76-4-104 - Sanitation and Subdivisions Act, and the associated ARM 17.36.310 (attached and highlighted). I am sure the board will note as I do, the clear language of the MCA and ARM that not only gives DEQ authorization to review the water quality impacts of new subdivisions, but requires it to do so. I hope you will insist that staff comply with law immediately and to change the appropriate standards and circulars to address this.

Thank you for this opportunity to comment and for your consideration and action.

Sincerely,

A handwritten signature in black ink, appearing to read "John Rundquist", with a stylized flourish at the end.

John Rundquist, P.E.
727 12th Ave.
Helena, MT 59601

Attachments: Bitterrooters v. MDEQ – May 16, 2016 Summary Judgement
MCA 76-4-104
ARM 17.36.310

NANCY SWEENEY
CLERK DISTRICT COURT

2016 MAY 16 PM 12:37

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MAY 18 2016

MORRISON, SHERWOOD,
WILSON & DEOLA, PLLP

**MONTANA FIRST JUDICIAL DISTRICT COURT
LEWIS AND CLARK COUNTY**

BITTERROOTERS FOR PLANNING,
INC., BITTERROOT RIVER
PROTECTIVE ASSOCIATION, INC.,

Plaintiffs and Petitioners,

v.

MONTANA DEPARTMENT OF
ENVIRONMENTAL QUALITY,

Defendant and Respondent,

and

STEPHEN WANDERER and
GEORGIA FILCHER, individuals,

Defendant Intervenors.

Cause No. ADV-2015-32

**ORDER ON PETITION FOR
JUDICIAL REVIEW**

1 does not exercise its discretion it abuses its discretion.” *Id.* ¶ 43 (citations
2 omitted).

3 Similarly, in the present case, DEQ’s failure to exercise its discretion
4 under Montana Administrative Rule 17.30.715(2) violates the spirit of the rule
5 and constitutes an abuse of discretion. Although the agency has discretion to
6 decide whether a proposed action is significant, the agency must consider the
7 relevant factors when called upon to do so. DEQ’s decision to issue a
8 groundwater discharge permit to the Grantsdale subdivision is a related action
9 subject to a cumulative impacts analysis which DEQ must consider under
10 Montana Administrative Rule 17.30.715(2)(a). DEQ must explicitly address the
11 cumulative impacts from these actions. Mere analysis implicit within the
12 calculation of allowable discharge is insufficient. *Friends of the Wild Swan* ¶ 35.

13 CONCLUSION

14 DEQ’s decision to issue a groundwater discharge permit MTX000233
15 violates MEPA. DEQ failed to consider explicitly cumulative impacts of the
16 Grantsdale subdivision and failed to consider secondary impacts necessitated by
17 constructing and operating a large retail facility. DEQ’s decision also violates
18 the Water Quality Act. DEQ failed to consider impacts to nearby surface waters
19 and the cumulative impacts of the Grantsdale subdivision in violation of Montana
20 Administrative Rule 17.30.715(1) and (2). Bitterrooters failed to file their
21 complaint within thirty days of learning of DEQ’s final agency decision.
22 Bitterrooters’ claim that DEQ violated their right to participate is barred by the
23 statute of limitations.

24 Based on the foregoing,

25 /////

Montana Code Annotated 2015

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76-4-104. Rules for administration and enforcement. (1) The department shall, subject to the provisions of [76-4-135](#), adopt reasonable rules, including adoption of sanitary standards, necessary for administration and enforcement of this part.

(2) The rules and standards must provide the basis for approving subdivisions for various types of public and private water supplies, sewage disposal facilities, storm water drainage ways, and solid waste disposal. The rules and standards must be related to:

- (a) size of lots;
- (b) contour of land;
- (c) porosity of soil;
- (d) ground water level;
- (e) distance from lakes, streams, and wells;
- (f) type and construction of private water and sewage facilities; and
- (g) other factors affecting public health and the quality of water for uses relating to agriculture, industry, recreation, and wildlife.

(3) (a) Except as provided in subsection (3)(b), the rules must provide for the review of subdivisions by a local department or board of health, as described in Title 50, chapter 2, part 1, if the local department or board of health employs a registered sanitarian or a registered professional engineer and if the department certifies under subsection (4) that the local department or board is competent to conduct the review.

(b) (i) Except as provided in [75-6-121](#) and subsection (3)(b)(ii) of this section, a local department or board of health may not review public water supply systems, public sewage systems, or extensions of or connections to these systems.

(ii) A local department or board of health may be certified to review subdivisions proposed to connect to existing municipal water and wastewater systems previously approved by the department if no extension of the systems is required.

(4) The department shall also adopt standards and procedures for certification and maintaining certification to ensure that a local department or board of health is competent to review the subdivisions as described in subsection (3).

(5) The department shall review those subdivisions described in subsection (3) if:

(a) a proposed subdivision lies within more than one jurisdictional area and the respective governing bodies are in disagreement concerning approval of or conditions to be imposed on the proposed subdivision; or

(b) the local department or board of health elects not to be certified.

(6) The rules must further provide for:

(a) providing the reviewing authority with a copy of the plat or certificate of survey subject to review under this part and other documentation showing the layout or plan of development, including:

(i) total development area; and
(ii) total number of proposed dwelling units and structures requiring facilities for water supply or sewage disposal;

(b) adequate evidence that a water supply that is sufficient in terms of quality, quantity, and dependability will be available to ensure an adequate supply of water for the type of subdivision proposed;

(c) evidence concerning the potability of the proposed water supply for the subdivision;

(d) adequate evidence that a sewage disposal facility is sufficient in terms of capacity and dependability;

(e) standards and technical procedures applicable to storm drainage plans and related designs, in order to

ensure proper drainage ways;

(f) standards and technical procedures applicable to sanitary sewer plans and designs, including soil testing and site design standards for on-lot sewage disposal systems when applicable;

(g) standards and technical procedures applicable to water systems;

(h) standards and technical procedures applicable to solid waste disposal;

(i) adequate evidence that a proposed drainfield mixing zone and a proposed well isolation zone are located wholly within the boundaries of the proposed subdivision where the drainfield or well is located or that an easement or, for public land, other authorization has been obtained from the landowner to place the proposed drainfield mixing zone or well isolation zone outside the boundaries of the proposed subdivision where the drainfield or well is located. A mixing zone may extend outside the boundaries of the proposed subdivision onto adjoining land that is dedicated for use as a right-of-way for roads, railroads, or utilities. This subsection (6)(i) does not apply to the divisions provided for in [76-3-207](#) except those under [76-3-207\(1\)\(b\)](#).

(j) criteria for granting waivers and deviations from the standards and technical procedures adopted under subsections (6)(e) through (6)(i);

(k) evidence to establish that, if a public water supply system or a public sewage system is proposed, provision has been made for the system and, if other methods of water supply or sewage disposal are proposed, evidence that the systems will comply with state and local laws and regulations that are in effect at the time of submission of the preliminary or final plan or plat. Evidence that the systems will comply with local laws and regulations must be in the form of a certification from the local health department as provided by department rule.

(l) evidence to demonstrate that appropriate easements, covenants, agreements, and management entities have been established to ensure the protection of human health and state waters and to ensure the long-term operation and maintenance of water supply, storm water drainage, and sewage disposal facilities.

(7) If the reviewing authority is a local department or board of health, it shall notify the department of its recommendation for approval or disapproval of the subdivision not later than 45 days from its receipt of the subdivision application. The department shall make a final decision on the subdivision within 10 days after receiving the recommendation of the local reviewing authority, but not later than 55 days after the submission of a complete application, as provided in [76-4-125](#).

(8) Review and certification or denial of certification that a division of land is not subject to sanitary restrictions under this part may occur only under those rules in effect when a complete application is submitted to the reviewing authority, except that in cases in which current rules would preclude the use for which the lot was originally intended, the applicable requirements in effect at the time the lot was recorded must be applied. In the absence of specific requirements, minimum standards necessary to protect public health and water quality apply.

(9) The reviewing authority may not deny or condition a certificate of subdivision approval under this part unless it provides a written statement to the applicant detailing the circumstances of the denial or condition imposition. The statement must include:

(a) the reason for the denial or condition imposition;

(b) the evidence that justifies the denial or condition imposition; and

(c) information regarding the appeal process for the denial or condition imposition.

(10) The department may adopt rules that provide technical details and clarification regarding the water and sanitation information required to be submitted under [76-3-622](#).

History: En. Sec. 152, Ch. 197, L. 1967; amd. Sec. 3, Ch. 509, L. 1973; amd. Sec. 3, Ch. 529, L. 1975; amd. Sec. 3, Ch. 557, L. 1977; R.C.M. 1947, 69-5005(part); amd. Sec. 2, Ch. 378, L. 1985; amd. Sec. 2, Ch. 490, L. 1985; amd. Sec. 1, Ch. 224, L. 1995; amd. Sec. 19, Ch. 471, L. 1995; amd. Sec. 5, Ch. 280, L. 2001; amd. Sec. 7, Ch. 302, L. 2005; amd. Sec. 1, Ch. 83, L. 2011; amd. Sec. 1, Ch. 217, L. 2011; amd. Sec. 4, Ch. 195, L. 2013.

17.36.310 STORM DRAINAGE

(1) The applicant shall submit a storm drainage plan to the reviewing authority. The plan must include a design report, calculations, and plan sheets sufficient to provide construction details of the storm drainage system and must conform with the requirements of either (2) or (3).

(2) Except as provided in (3), a storm drainage plan must be designed in accordance with Department Circular DEQ-8.

(a) for lots proposed for uses other than as single living units, a storm drainage plan submitted under (2) must be prepared by a professional engineer and the storm drainage system is subject to the requirements in ARM [17.36.314](#);

(b) a storm drainage plan submitted under (2) must include a maintenance plan for all drainage structures. The maintenance plan must describe the maintenance structures, provide a maintenance schedule, and designate the entity responsible for performing maintenance. The reviewing authority may require the applicant to create a homeowner's association or other legal entity that will be responsible for maintenance of storm drainage structures and that will have authority to charge appropriate fees. The maintenance plan must include easements and agreements as necessary for operation and maintenance of all proposed off-site storm drainage structures or facilities.

(3) Regardless of the type of use or the number of commercial or residential units proposed, a storm drainage plan is not subject to the requirements of (2) if all of the requirements in (3)(a) through (h) are met. To be exempt from the requirements of (2), a storm drainage plan must be submitted demonstrating that:

(a) the proposed subdivision has five or fewer lots;

(b) the area of disturbance within each proposed lot has a slope of three percent or less;

(c) unvegetated areas including, but not limited to, road surfaces, road cuts and fills, roofs, and driveways, comprise less than 15 percent of the total acreage of each proposed lot;

(d) drainage structures, such as road ditches, exist or, if necessary, will be constructed;

(e) completion of the proposed subdivision will not increase the amount of pre-development storm water runoff, during the 100-year 24-hour storm event, between proposed lots and from the proposed subdivision area to an adjoining property;

(f) the proposed subdivision will not alter pre-development pass-through water flow patterns;

(g) the applicant provides the reviewing authority with a 7 1/2 minute USGS topographic map showing the proposed subdivision and, if available, a map with contour intervals no greater than 20 feet that shows drainage patterns; and

(h) no buildings or drainfields in the subdivision will be flooded during the 100-year 24-hour storm event.

(4) If fill material will be placed within a delineated floodplain, the applicant shall provide evidence that the floodplain permit coordinator has been notified and that appropriate approvals have been obtained.

(5) If applicable, the applicant shall obtain an MPDES permit for storm water discharges, pursuant to ARM Title 17, chapter 30.

(6) Storm water that reaches state surface waters must be treated prior to discharge if the reviewing authority determines that untreated storm water is likely to degrade the receiving waters.

(a) minimum treatment of storm water consists of removal of settleable solids and floatable material. The reviewing authority may require more extensive treatment if

deemed necessary to protect state waters from degradation;

(b) plans for the treatment facility must be approved by the reviewing authority.

(7) The department may grant a waiver from any of the requirements in this rule pursuant to the provisions of ARM [17.36.601](#).

History: [76-4-104](#), MCA; [IMP](#), [76-4-104](#), [76-4-125](#), MCA; Eff. 12/31/72; [AMD](#), Eff. 11/4/73; [AMD](#), Eff. 11/3/75; [AMD](#), Eff. 5/6/76; [AMD](#), 1977 MAR p. 746, Eff. 10/25/77; [AMD](#), 1984 MAR p. 1027, Eff. 7/13/84; [TRANS](#), from DHES, 1996 MAR p. 1499; [AMD](#), 2002 MAR p. 1465, Eff. 5/17/02; [AMD](#), 2003 MAR p. 221, Eff. 2/14/03; [AMD](#), 2014 MAR p. 2098, Eff. 9/19/14.

I beg you all to consider the fact that the air we breathe is made up of mostly nitrogen and that the really bad plankton in our freshwater environment, anabaena has the ability to fix nitrogen from the atmosphere. Low N:P ratios favor "species that could fix nitrogen from the unlimited atmospheric pool, notably nitrogen-fixing species of Cyanobacteria. By fixing gaseous nitrogen, which would then be retained, the lake would slowly correct its own nitrogen deficiency."

There is way too much quality research available out there that contradicts DEQ's approach to taking care of our lakes and rivers by reducing total nitrogen loading from POTW's to blindly follow their flawed science "because we can". Instead let's spend our money wisely and focus on phosphorus and all the other sources of contamination to really go forward in reaching all our goals of preserving our state waters. Simply ask the DEQ and Dr. Suplee to show how continuing to focus on POTW's and total nitrogen in particular will actually make a significant difference in the absence of controlling or limiting other sources. Continuing down this path is not only a massive waste of money and resources but could actually produce tragic unintended consequences.

Greg Acton



June 2, 2016

Amy Steinmetz
Department of Environmental Quality
P.O. Box 200901
Helena, Montana 59620-0901

Dear Ms. Steinmetz:

The members of the Treasure State Resources Association and the Montana Petroleum Association are committed to the responsible development of Montana's resources to benefit the people of our state. Our collective memberships include large industrial facilities, small businesses, unions and community organizations across the state, all of whom seek to strengthen our economy and create jobs in concert with maintaining the quality of life we all value.

We urge the Montana Department of Environmental Quality to use the triennial review process to comprehensively review and update Montana's water quality standards to bring them more in line with the latest science. The use of outdated standards impacts businesses and jobs and wastes taxpayer dollars, as municipal water systems and Montana businesses are not allowed to target their efforts to using the latest and most precise measurements.

One clear example of this is that Montana continues to utilize the total recoverable metals standard for measuring the impact of metals in creeks, streams and lakes that was developed in the 1980's in the early days of enforcement of the Clean Water Act. In the mid-1990's – more than 20 years ago – USEPA, after careful deliberation, issued guidance that a dissolved metals standard more accurately and precisely measures the bioavailability of metals and thus more realistically measures the potential risk to fish and other aquatic life from metals (e.g. arsenic). That standard has been adopted by most other states. Since that time, USEPA has gone further in developing models that predict how and whether site-specific conditions in water bodies (such as acidity) impact bioavailability. Montana continues to cling to an outdated and imprecise water standard that is more than 20 years out of date.

Joint TSRA/MPA Comments

June 2, 2016

Page 2

Our members believe it is overdue for the Montana Department of Environmental Quality to take a careful look at all of its water quality standards. Doing so will prove helpful as DEQ seeks to implement SB 325, as well as other regulatory processes. The failure to do so impacts Montana businesses and jobs, wastes taxpayer dollars and does not take advantage of the latest science to protect the natural resources that make Montana such a great place to live and work.

Thank you for this opportunity to comment. We look forward to following the Department's efforts as they continue to work through the triennial review process.

Sincerely,



Peggy Trenk
Executive Director
Treasure State Resources
Association
P.O. Box 1700
Helena, MT 59624



Alan Olson
Executive Director
Montana Petroleum Association
P.O. Box 1186
Helena, Montana 59624

Triennial Review: Responses to Comment and Federal Rule Revision

1. Federal Rule Revision: In August of 2015, EPA revised 40 CFR Part 131 to require that states, during their triennial review of water quality standards, either adopt EPA's Clean Water Act §304(a) criteria recommendations or explain their decision not to adopt the criteria.

Response: The new or updated Clean Water Act §304(a) criteria for the following parameters are not proposed for revision at this time for the following reasons:

Aluminum

In 1988, EPA recommended expressing the value for aluminum in the water column as the total recoverable fraction or as an acid-soluble fraction to protect aquatic life. Prior to 1995, the state of Montana adopted the dissolved fraction of aluminum as the water quality criteria (MT DEQ, 2012). DEQ is currently in the process of evaluating data gaps, research needs, complexities and implications of the total recoverable aluminum criteria fraction as a water quality standard. Stakeholder input will be incorporated in to this process.

Ammonia

DEQ is currently studying the most recently recommended ammonia criteria as outlined in the publication EPA 822-R-13-001 Aquatic Life Ambient Water Quality Criteria for Ammonia – Freshwater, 2013 and its implication to the state. DEQ has identified substantial implementation challenges associated with adopting EPA's current criteria for ammonia.

The implementation challenges are technical, social and economic. The technical difficulties surround understanding the complex science of ammonia, the probable effectiveness of alternative treatment options, and identifying the natural biological communities. The social and economic challenges are primarily, though not limited to, developing a workable strategy that combines the science with applicable and affordable options to achieve compliance for the smaller publically owned treatment works (POTWs).

Ultimately, DEQ must protect the waters of the state and their aquatic communities. To reach this end, the department has an obligation to implement criteria that are protective and possible to achieve. To address its responsibility to protect state waters and its obligation to implement protective and achievable criteria, the department is developing a list of strategy options to accompany the future potential adoption of the ammonia criteria. Strategy options currently being explored include:

- (1) BMPs to achieve best ammonia, TN and TP removal from wastewater lagoons: DEQ commissioned a report (completed 5/2015) to identify available technologies, best management practices (BMPs), and optimization methods for increasing ammonia (NH₃), total nitrogen (TN), and total phosphorus (TP) removal efficiencies of facultative lagoon systems in Montana. Emerging, innovative technologies were reviewed along with more established methods. All technologies were evaluated in their overall ability to remove ammonia, total nitrogen, and total phosphorus, as well as site specific limitations and performance criteria related to Montana. No single technology or approach was found to be optimal; rather, several technologies and BMPs were offered up as having very good potential, depending upon the site-specific characteristics of the lagoon and the community. For example, a technology showing promise for ammonia removal is floating barriers along with mechanical aeration. Both of these practices can be

added to existing lagoons. A User's Guide was also developed which can be used by lagoon operators to assist them in selecting the most appropriate approach for their situation. DEQ is working with 2 communities in 2016/17 to pilot selected technologies, BMPs, and optimization methods in their lagoons. Water quality improvements resulting from the changes will be monitored and reported upon at a later date. The report and the User's Guide are available on DEQ's website at: <http://deq.mt.gov/wqinfo/srf/WPCSRF/technicalassistance.mcpix>

- (2) Re-calculate ammonia criteria for specific aquatic life: Ammonia criteria are toxicity-based, and are calculated by EPA using groups of organisms intended to represent the overall aquatic community. Therefore, under federal rules, ammonia criteria may be calculated based on the sensitivity of the organisms that actually exist or are desirable within a waterbody. Thus a different, and less stringent, ammonia criterion might be developed for waterbodies where specific fauna and age classes are naturally absent, and where organisms, which are less sensitive to ammonia, are present. Specifically, the absence of mussels, and the absence of early life stages of fish during certain times of the year may result in a higher criteria for ammonia than ammonia criteria that are based on broad assumptions of the presence of aquatic fauna.
- (3) Collect better pH and temperature datasets for receiving waters: Permits are currently developed on relatively small pH and temperature datasets collected from the receiving waterbody. Collecting more accurate, longer-term pH and temperature datasets from receiving streams will be beneficial. Potentially, ammonia permits could then be written to reflect seasonal pH and temperature patterns (i.e., different limits for summer, fall, winter, and spring runoff). Evaluations show that ammonia concentrations would be more relaxed in fall, winter, and spring, compared to summer. DEQ training of operators in calibration and use of low-cost pH meters and temperature monitoring using low-cost units would be essential to this strategy.
- (4) Understanding mixing-zones: Presently, the Department allows small fractions of the 7Q10 flow for mixing with ammonia standards. The 7Q10 is a relatively low flow, and mixing zone fractions of 7Q10 flow drastically cut the volume of water available for mixing. Understanding the science behind the appropriate mixing may provide for higher low flow volumes. These fractions could then be revisited to see if higher values (e.g., 100%, 40%, 10%) available for mixing *may* protect aquatic life and still prevent "toxics in toxic amounts" on a case-by-case basis.
- (5) Include appropriate compliance schedules in permits: 75-5-401(2), MCA gives DEQ authority to grant permittees compliance schedules. Compliance schedules allow permittees to come into compliance with a water-quality based effluent limit (WQBEL) over time. DEQ policy has required compliance schedules to require full compliance with the WQBEL within one permit cycle (5 years). Scenarios may exist where longer compliance schedules, with regular review, may be necessary.
- (6) Provide opportunity to request a variance: A variance from a water quality standard is an appropriate tool when there is certainty that the water quality criteria are accurate (see 2 above) and designated uses are appropriate and accepted. If these prerequisites are met, an individual permittee may request a variance supported by an individual economic demonstration that shows the permittee cannot afford to improve treatment to comply with the criteria. The variance and justification would be reviewed regularly and adjusted if

economic conditions change, affordable technology improvements are available, or ambient water conditions improve.

- (7) Review stream classification and designated uses where needed: DEQ could request that the Board of Environmental Review change the underlying classification of stream reaches downstream of lagoons which release ammonia at concentrations above current or future standards. The reclassification would require a public process to identify existing and future uses for the waterbody. A reclassification example might be re-designating uses from “aquatic life” to a subclass of aquatic life such as “marginal aquatic life tolerant of ammonia,” with associated ammonia standards reflecting instream ammonia concentrations as influenced by the lagoon.

Methyl mercury

In 1995, EPA recommended an aquatic life water quality criterion for methylmercury as the dissolved metal in the water column. In 2001, EPA recommended a human health water quality criterion as a concentration in fish and shellfish tissue rather than in the water column. DEQ is currently in the process of evaluating how the criteria can be implemented as a water quality standard. Stakeholder input will be solicited and incorporated into this process.

Selenium

EPA released freshwater aquatic life water quality selenium criterion guidance in June, 2016. There are fish tissue and water column components to this suggested criterion. EPA is in the process of developing implementation guidance to accompany this document that will be released in the fall of 2016. DEQ is eager to review these guidelines and learn how EPA suggests implementing this criterion, particularly with regard to what level of protection (i.e., 95% at the species level) to fish the EPA recommends, how to implement this in averaging periods, etc., and how to reflect this in NPDES permit limits (likely as a water column number). In addition, there are many more questions Montana has about best implementation practices for this criterion. For example, DEQ is investigating the most analytically sound way to obtain dry weight selenium concentrations from a fish tissue plug, in cases where the fish will not be sacrificed and are not gravid.

DEQ is currently developing selenium site-specific criteria for Lake Koocanusa and may apply the suggestions from the selenium technical subcommittee on implementation across the state.

2. Comment: Montana continues to utilize the total recoverable metals standard for measuring the impact of metals in water bodies. This standard was developed in the 1980s. However, in the 1990s, USEPA issued guidance that a dissolved metals standard more accurately and precisely measures the bioavailability of metals and thus more realistically measures the potential risk to fish and other aquatic life from metals (i.e. Arsenic). The total dissolved metals standard has been adopted by most other states. Since then, USEPA has also developed models that predict how and whether site-specific conditions in water bodies (i.e. acidity) impact bioavailability. MT continues to cling to an outdated and imprecise water standard that is 20 years out of date.

Add a new footnote to the acute and chronic copper aquatic life criteria entries in Circular DEQ-7 that would state: “Freshwater copper criteria may be calculated utilizing the procedures identified in EPA’s Aquatic Life Ambient Freshwater Quality Criteria – Copper (2007), EPA-822-R-07-001.”

Response:

On October 1, 1993, the U.S. Environmental Protection Agency (EPA), Office of Water recommended dissolved metals criteria to be adopted instead of total recoverable criteria as the State Water Quality Standard for metals to protect aquatic life. In the same memorandum, EPA maintained its position that the total recoverable fraction (TR) published under the 304(a) of the Clean Water Act is scientifically defensible and specified that it will approve individual state’s risk management decisions to keep the total recoverable fraction as the water quality standard. The State of Montana adopted the total recoverable fraction as the water quality standard to protect aquatic life and human health, with the exception of aluminum which is expressed as the dissolved fraction (MT DEQ, 2012). In 2007, EPA issued a revised national recommendation for copper aquatic life criteria using the copper biotic ligand model (BLM) for those who wanted to use this approach (EPA 2007).

For the BLM, ten characteristics of the receiving water are necessary as inputs to the model (temperature, pH, dissolved organic carbon (DOC), major cations (Ca, Mg, Na, & K), major anions (SO₄ & Cl), alkalinity, and sulfide). Whereas for the dissolved metal fraction, only two factors are necessary to implement the water quality standard: Factor one relates to the fact that the EPA’s section 304(a) criteria for metals are expressed as total recoverable (TR) metal fraction, not as dissolved requiring a conversion factor (EPA 1996) to express the total recoverable fraction as a dissolved fraction; Factor two relates to Federal regulation 40CFR 122.45(c), which requires metal permit discharges to be expressed as total recoverable, not dissolved making, a translator factor necessary to determine the dissolved fraction of the total recoverable fraction in the fully mixed receiving water. This translator factor can be greatly influenced by temperature, pH, hardness, total suspended solids (TSS), particulate organic carbon (POC), dissolved organic carbon (DOC), acid volatile sulfides (AVS) as well as concentrations of other metals and organic compounds. A test of the parameters per site that influence the translation factor and development of the correspondent regressions to calculate the translator is the best approach. Other approaches have been used as interim measures in the absence of site specific information and conservative assumptions can be made. These approaches can be found in the EPA guidance document on how to develop a translator factor (EPA, 1996).

Although the dissolved fraction is more bioavailable to aquatic life, aquatic organisms are subjected to metals contamination from factors other than water. Dissolved fractions move with surface water and groundwater flows, interact with other compounds (ligands) to form complexes that reduce the apparent toxicity of the dissolved metal and adsorbed to sediment particles. Both the BLM and the dissolved fraction provide only estimates of water column toxicity. Ingestion of contaminated sediment is a pathway for aquatic organisms, therefore the use of sediment metals standards when using the BLM model or the dissolved metal fraction as water quality standard (WQS) is recommended (EPA, 1993). At present, there are not sediment standards, only guidance values. The total recoverable fraction is a more conservative approach but includes the particulates, which minimizes the need for a complementary sediment standard.

DEQ is currently in the process of evaluating data gaps, research needs, complexities and implications of the BLM and the dissolved fraction as a water quality standard. Stakeholder input will be incorporated to this process when the time arrives to present the findings.

In the absence of these findings, the Board is not adopting use of the BLM in Montana and is not adopting the footnote suggested by the commenter. However, under Montana Code Annotated §75-5-310, a permit applicant, permittee, or person potentially liable under any state or federal environmental remediation statute may petition the Board of Environmental Review to adopt site-specific standards of water quality for acute and chronic life. The board's decision to adopt site-specific standards must be based on sound scientific, technical, and available site-specific evidence.

References:

EPA. 2007. Aquatic Life Ambient Freshwater Water Quality Criteria – Copper – 2007 Revision. EPA 822-F-007-001. U.S. Environmental Protection Agency, Office of Water. Washington, D.C.

EPA.1988. Ambient Water Quality Criteria for Aluminum. . EPA 440/5-88-008. U.S. Environmental Protection Agency, Office of Water. Washington, D.C.

EPA. 1996. The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion. EPA 823-B-96-007. U.S. Environmental protection Agency, Office of Water. Washington, D.C.

EPA. 1993. Memorandum from Martha Prothro, Acting Assistant Administrator for Water. To: Water Management Division Directors. Subject: Office of Water Policy and technical Guidance on interpretation and Implementation of Aquatic Life Metals Criteria. U.S. Environmental Protection Agency, Office of Water, Washington, D.C.

MDEQ. 2012. Circular DEQ-7. Water Quality Planning Bureau, Water Quality Standards Section. Montana Department of Environmental Quality, Helena, MT.

3. Comment: DEQ cannot continue to force POTWs to shoulder all the burden and cost of cleaning up the lakes, rivers and streams. The millions more spent to reduce total nitrogen and further limit phosphorous contributions at the POTWs will have little to no effect to the quality without addressing the other sources of contamination. You will price the POTW's out of the business of keeping the rest of the pollutants out of our environment when people choose to located just out of reach of the community wastewater collection systems and put in septic systems and gravel roads.

Response: It is important to note that the Board has not adopted any lake standards so far, but has adopted river and stream nitrogen (N) and phosphorus (P) standards. Rationale for adoption of numeric nutrient standards for rivers and streams need to be considered apart from lakes.

Rivers and Streams: Data indicates both nitrogen and phosphorus need to be regulated in order to properly control eutrophication in flowing waters. Co-limitation appears to be especially common in flowing waters, where nutrient-addition experiments show that added N and P result in much greater response of algal growth than does N- or P-addition alone (Elser et al., 2007). In the Clark Fork River, at locations where both the N standard and the P standard have been met (20 µg TP/L and 300 µg TN/L) algal biomass has usually been reduced below nuisance levels (≤ 150 mg Chl a /m 2). Locations in the Clark Fork River where these nutrient levels have not been met continue to have elevated algae biomass, and study sites give mixed signals regarding nutrient limitation—some suggesting N limitation, others P;

these signals are not consistent across time or location (Suplee et al., 2012). In DEQ's whole-stream fertilization study (in an eastern Montana stream), soluble reactive phosphorous (SRP) was increased by only 1 µg/L above ambient background (bringing the stream concentration from 3 to 4 µg SRP/L), while nitrate was increased from 3 µg N/L (background) to 39 µg N/L. This caused significant changes in daily DO patterns, proliferations of *Cladophora* mats, etc., and the changes were essentially due only to the increased nitrate, since background P was hardly changed at all (Suplee et al., 2016). Stated simply, limiting nutrient levels are not fixed and both nutrients are likely to limit some facet of the algal community at any point in time. If, for example, P is presently limiting in a stream, that does not mean there is no point in limiting N. If P were to increase, say from summer rain events, or due to the confluence of a downstream tributary with slightly higher P concentrations, the N that was formerly in excess can become the limiting nutrient without any change in its absolute concentration.

Lakes: Phosphorus control in lakes has been widely successful in reducing lake eutrophication. Lakes, in general, are more consistent than rivers and streams in regards to which nutrient limits algal production. Regarding Flathead Lake, DEQ met with stakeholders in 2014 and 2015 about the development and adoption of numeric nutrient standards for the lake. At these meetings DEQ has made it clear that P is the nutrient which needs to be most closely regulated, while the appropriate standard for N needs further discussion and thoughtful consideration. Although P reduction has been very successful in cleaning up already-eutrophied lakes, it should be noted that Flathead Lake is still a very clean, oligotrophic lake, and the Flathead Lake Biostation has consistently recommended that standards for P and N be adopted for Flathead Lake in order to properly protect it.

POTWs: The increasing price of community wastewater fees needs to be given careful consideration. To this end, rules, policies and DEQ programs have been crafted to address nutrients coming from sources other than POTWs. For example, the 20-year period over which nutrient standards variances are in place not only allows dischargers time to make improvements in wastewater treatment, but also allows time to institute trading arrangements with nonpoint sources of nutrients, and for DEQ (and others) to better address nonpoint sources of nutrients. DEQ's nonpoint source program is constantly looking for opportunities to fund projects to reduce diffuse nutrient sources from agriculture, etc. TMDLs developed around the state include a load allocation to nonpoint source, and these documents are often the starting point for working in watersheds where nonpoint sources of nutrients need to be addressed.

References

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Suplee, Michael W., Vicki Watson, Walter K. Dodds, and Chris Shirley. 2012. Response of Algal Biomass to Large Scale Nutrient Controls in the Clark Fork River, Montana, U.S.A. *Journal of American Water Resources Association*. 48: 1008-1021.

Suplee, M.W., Sada, R.H., Feldman, D., and G.Bruski. 2016. Whole-stream Nitrogen and Phosphorus Addition Study to Identify Eutrophication Effects in a Wadeable Prairie Stream. Helena, MT: Montana

Dept. of Environmental Quality. Available at:

<http://deq.mt.gov/Water/WQPB/standards/numericnutrientcriteria>

4. Comment: Commenter supports retaining Maximum Contaminant Levels (MCL) where they are more stringent than the Section 304(a) criteria. Commenter does not recommend that the MCL be used where consideration of available treatment technology, costs, or availability of analytical methodologies has resulted in a MCL that is less protective than a Maximum Contaminant Level Goal (MCLG).

Response: All 94 updated 304(a) criteria considered. Where the MCLs were more stringent than the 304(a) criteria, DEQ retained the MCLs. Changes to non-304(a) human health criteria based on MCLs are not proposed in the current rulemaking. In future rulemakings, DEQ and the Board will continue to consider how best to protect Montana's water quality in accordance with state and federal regulation.

5. Comment: Commenter recommends clarifying which water quality criteria apply to which designated uses.

Response: There are many areas where the designated uses and/or criteria that apply to a water body are not clear. With 17 water-use classes and 23 distinct but often very similar uses, it is impossible to provide clarification without changes to the structure of our water uses and use classes. Therefore, DEQ will research and address this issue over the next several years, ultimately providing clarity through a proposed new surface water use class structure for Board action.

6. Comment: Commenter recommends improvements to Montana's nondegradation rules such as:

- Defining significance thresholds in terms of significances rather than nonsignificance,
- Defining significance thresholds in terms of assimilative capacity rather than the magnitude of the proposed increase,
- Revising significance thresholds to ensure only insignificant degradation is allowed under exceptions to review of high quality water bodies, and
- Adopting a cumulative cap on the use of total assimilative capacity.

Response: Montana's nondegradation rules should be reviewed. Montana's nondegradation rules are used not only by the Montana Pollution Discharge Elimination System program, but also by other programs throughout DEQ, such as the groundwater and subdivisions programs. Therefore, modifications to the rules will require an understanding of potential impacts to more than just Clean Water Act administration. The research and amendments necessary to revise and clarify the nondegradation rules will require several years of planning and outreach. Potential revision of Montana's nondegradation rules will be addressed in a future rulemaking.

7. Comment: Commenter requests consideration of adoption of a broad narrative to protect downstream WQS.

Response: DEQ participated in the national workgroup that developed the customizable templates for a narrative downstream use protection standard. During this process Montana and many other states shared concerns on how such a narrative standard would be implemented within water quality

programs. Montana is looking forward to seeing technical guidance to support how such a broad and generic standard is implemented. When this information is available we will be able to determine how to proceed.

8. Comment: Commenter recommends that efforts regarding water quality standards and natural conditions meet EPA's public participation requirements and be submitted to EPA for review/action.

Response: New and revised water quality standards will meet public participation requirements of 40 CFR Part 131 and 40 CFR Part 25 and will be submitted to EPA for review/action under CWA 303(c).

BEFORE THE BOARD OF ENVIRONMENTAL REVIEW
AND THE DEPARTMENT OF ENVIRONMENTAL QUALITY
OF THE STATE OF MONTANA

In the matter of the amendment of)	NOTICE OF PUBLIC HEARING
ARM 17.24.645, 17.24.646,)	ON PROPOSED AMENDMENT
17.30.502, 17.30.607, 17.30.608,)	
17.30.609, 17.30.610, 17.30.611,)	(RECLAMATION)
17.30.619, 17.30.621, 17.30.622,)	(WATER QUALITY)
17.30.623, 17.30.624, 17.30.625,)	(SUBDIVISIONS)
17.30.626, 17.30.627, 17.30.628,)	(CECRA)
17.30.629, 17.30.641, 17.30.646)	(UNDERGROUND STORAGE
17.30.650, 17.30.651, 17.30.652,)	TANKS)
17.30.653, 17.30.654, 17.30.655,)	
17.30.656, 17.30.657, 17.30.702,)	
17.30.715, 17.30.1001, 17.30.1007,)	
17.30.1322, 17.36.345, 17.55.109,)	
17.56.507, and 17.56.608, pertaining)	
to ground and surface water)	
monitoring, definitions, use and)	
classification standards, and adoption)	
by reference)	

TO: All Concerned Persons

1. On _____, 2016, at ___:00 a.m., the Board of Environmental Review and the Department of Environmental Quality will hold a public hearing at hearing in Room ____ of the Metcalf Building, 1520 East Sixth Avenue, Helena, Montana, to consider the proposed amendment of the above-stated rules.

2. The board and department will make reasonable accommodations for persons with disabilities who wish to participate in this rulemaking process or need an alternative accessible format of this notice. If you require an accommodation, contact Denise Hartman, Administrative Rules Coordinator, no later than 5:00 p.m., _____ 2016, to advise us of the nature of the accommodation that you need. Please contact Denise Hartman at Department of Environmental Quality, P.O. Box 200901, Helena, Montana 59620-0901; phone (406) 444-2630; fax (406) 444-4386; or e-mail dhartman2@mt.gov.

3. The rules proposed to be amended provide as follows, stricken matter interlined, new matter underlined:

17.24.645 GROUND WATER MONITORING (1) through (5) remain the same.

(6) Methods of sample collection, preservation, and sample analysis must be conducted in accordance with 40 CFR Part 136 titled "Guidelines Establishing Test Procedures for the Analysis of Pollutants" (July ~~2003~~ 2015) and the department's

MAR Notice No. 17-____

document titled "Department Circular DEQ-7, Montana Numeric Water Quality Standards," ~~October 2012~~ [effective month and year of this rule amendment] edition. Copies of Department Circular DEQ-7 are available at the Department of Environmental Quality, 1520 E. 6th Avenue, P.O. Box 200901, Helena, MT 59620-0901. Sampling and analyses must include a quality assurance program acceptable to the department.

(7) and (8) remain the same.

AUTH: 82-4-204, MCA

IMP: 82-4-231, 82-4-232, MCA

REASON: See reasons below (ARM 17.24.646 and ARM 17.30.502).

17.24.646 SURFACE WATER MONITORING (1) through (5) remain the same.

(6) Methods of sample collection, preservation, and sample analysis must be conducted in accordance with 40 CFR Part 136 titled "Guidelines Establishing Test Procedures for the Analysis of Pollutants" (July 2003 2015) and Part 434 titled "Coal Mining Point Source Category BPT, BAT, BCT Limitations and New Source Performance Standards" (January 2002), and the ~~October 2012~~ [effective month and year of this rule amendment] edition of the department's document titled "Department Circular DEQ-7, Montana Numeric Water Quality Standards." Copies of 40 CFR Part 136, 40 CFR 434, and Department Circular DEQ-7 are available at the Department of Environmental Quality, 1520 E. Sixth Avenue, P.O. Box 200901, Helena, MT 59620-0901. Sampling and analyses must include a quality assurance program acceptable to the department.

(7) remains the same.

AUTH: 82-4-204, MCA

IMP: 82-4-231, 82-4-232, MCA

REASON: See reason statement below (ARM 17.30.502) for DEQ-7 amendment.

Outdated versions of 40 CFR Part 136 are referenced at ARM 17.24.645 and 646, ARM 17.30.619, 641, and 646, ARM 17.30.1007, and ARM 17.30.1322. The board proposes updating these references to the 2015 version in order to stay current with federal requirements and maintain primacy for regulation under the Federal Water Pollution Control Act. A summary of new and revised approved analytical methods in the 2015 version of 40 CFR 136 can be seen in the Federal Register from February 19, 2015. (See 80 Fed. Reg. 8956 available at <https://www.epa.gov/cwa-methods/cwa-methods-regulatory-history>. Copies are also available at the Department of Environmental Quality, 1520 E. Sixth Avenue, P.O. Box 200901, Helena, MT 59620-0901.)

17.30.502 DEFINITIONS The following definitions, in addition to those in 75-5-103, MCA, and ARM Title 17, chapter 30, subchapters 6 and 7, apply throughout this subchapter:

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(1) through (13) remain the same.

(14) The board adopts and incorporates by reference Department Circular DEQ-7, entitled "Montana Numeric Water Quality Standards" (~~October 2012~~ [effective month and year of this rule amendment] edition), which establishes water quality standards for toxic, carcinogenic, bioconcentrating, nutrient, radioactive, and harmful parameters. Copies of Department Circular DEQ-7 are available from the Department of Environmental Quality, P.O. Box 200901, Helena, MT 59620-0901.

AUTH: 75-5-301, 80-15-105, MCA

IMP: 75-5-301, 80-15-201, MCA

REASON: The proposed Circular DEQ-7 can be viewed on the department's website at <http://deq.mt.gov/Water/WQPB/Standards>. Modifications to the circulars and the reasons for the modifications are as follows:

Grammar, wordsmithing, and technical edits: The board proposes the following edits to improve the readability, searchability, and accuracy of DEQ-7: adding units to all columns in the table; correcting the spelling of Indeno(1,2,3-cd)pyrene; and using dashes instead of hyphens throughout the document and noting in the introduction that dashes must be used for the search function to work properly. Finally, PCBs is not possessive and the apostrophe has been removed in order to be consistent with the department's editorial guidelines.

The board also proposes removing the numbers assigned by N. Irving Sax (SAX) to dangerous materials. These numbers are taken from Dangerous Properties of Industrial Materials. They are not available for all chemicals included in DEQ-7. Additionally, the board found that users seeking SAX numbers obtain them directly from SAX's Dangerous Properties of Industrial Materials rather than obtaining information within DEQ-7. Chemical Abstract Service Registry Numbers (CASRN) and National Institute for Occupational Safety and Health (NIOSH) numbers are included in DEQ-7. These numbers are much more widely used chemical identifiers. CASRN and NIOSH numbers will continue to be maintained and updated in DEQ-7. However, the board proposes removing SAX numbers to avoid unnecessary updates to information that is not essential in DEQ-7.

The board proposes to edit the wording in footnote (1) as follows to remove confusion about the origin of the harmful category in DEQ-7: "Footnote (1) discusses the categories of parameters (harmful, toxic, or carcinogenic)." In the previous version of DEQ-7 the harmful category was mentioned separately from the other two, and it was unclear whether it was intended as a separate category.

Correction of errors: The board proposed a correction of errors in the human health criterion for dioxin in surface water listed in DEQ-7, which is 5×10^{-9} . Dioxin is a priority pollutant and EPA's human health criterion for dioxin with a 1×10^{-6} excess lifetime cancer risk is 5×10^{-9} . Section 75-5-301(2)(a), MCA, requires that the criteria be based on an excess lifetime cancer risk level of 1×10^{-5} . The board proposes correcting the surface water human health criterion for dioxin to 5×10^{-8} in order to comply with the statute.

The board proposes to correct a misplaced decimal place in the criteria for beta emitters and gamma emitters. DEQ-7 currently has both parameters set at 0.4 millirem (mrem) per yr. The EPA maximum contaminant levels (MCL), which DEQ-7

references for beta emitters and gamma emitters, are both listed at 4 mrem/yr. Section 75-5-203, MCA, states that Montana's water quality standards cannot be more stringent than federal standards unless the board finds evidence that a more stringent standard is necessary to protect public health. The board does not have evidence that a more stringent standard is necessary to protect human health, and proposes correcting the human health criteria for beta emitters and gamma emitters to 4 mrem/year in order to comply with Montana statute.

Footnote (7): The units in footnote (7) are currently stated in micrograms per liter ($\mu\text{g/L}$) in order to provide more consistency throughout the document. However, the equations presented in footnote (7) are written in milligrams per liter (mg/L). The board proposes changing the units for the equations back to mg/L for accuracy. The tables in footnote (7) are accurately presented in $\mu\text{g/L}$ and will remain as such.

Footnote (19): Required reporting values (RRVs) in DEQ-7 are based on data provided by environmental laboratories for the methods they use for each pollutant. Revised footnote (19) provides that, based on the method of calculation and the number of programs that use DEQ-7, there are situations where DEQ may require alternate reporting values to meet analytical and reporting needs. The Montana Pollutant Discharge Elimination System (MPDES) permitting program uses RRVs. For certain parameters, such as total residual chlorine, the RRV in DEQ-7 is not low enough to meet their needs.

Footnote (39): The board is proposing that footnote (39) relating to endosulfans only apply to aquatic life criteria in order to be consistent with 304(a) national recommended water quality criteria (NRWQC). In the aquatic life table of NRWQC, the listings for alpha- and beta-endosulfan include the following note: "This value was derived from data for endosulfan and is most appropriately applied to the sum of alpha-endosulfan and beta-endosulfan." The NRWQC's recommendations for human health do not contain the same note.

EPA has generally approved multiple methods for Clean Water Act pollutants under 40 CFR part 136 and 40 CFR chapter I, subchapters N and O. Some of the approved analytical methods have greater sensitivities and lower minimum levels or method detection limits than other approved methods for the same pollutant. In August 2014, EPA amended its Clean Water Act regulations to state that NPDES program (the federal equivalent of the MPDES program) permit applicants must use EPA-approved sufficiently sensitive analytical methods for analysis of pollutants or pollutant parameters in permits. These sufficiently sensitive methods must be capable of detecting and measuring the pollutants at or below the applicable water quality criteria or permit limits.

By requiring sufficiently sensitive methods for analysis of pollutants under a MPDES permit, MPDES permit writers will have the ability to require an approved method that is sufficiently sensitive to meet the needs of the permit, and DEQ will ensure that data meaningful to the decision-making process will be generated and reported. Therefore, the board proposes including a statement in footnote (19) referring to EPA's sufficiently sensitive method requirement and stating that it supersedes the RRVs in DEQ-7 where the sufficiently sensitive methods generate lower reporting limits than those required by the RRVs.

Updates to human health criteria: In June 2015, EPA updated ambient water quality criteria for the protection of human health for 94 chemical pollutants. These

updated criteria reflect the latest scientific information and EPA policies, including updated body weight, drinking water consumption rate, fish consumption rate, bioaccumulation factors, health toxicity values, and relative source contributions. (See 80 Fed. Reg. 36986 (June 29, 2015) available at <https://www.epa.gov/wqc/human-health-water-quality-criteria>. Copies are also available at the Department of Environmental Quality, 1520 E. Sixth Avenue, P.O. Box 200901, Helena, MT 59620-0901). The board proposes adoption of these updated human health criteria and revisions to the introduction of DEQ-7 to reflect the updated exposure inputs (drinking water intake was updated from 2 liters of water to 2.4 liters of water, the average adult body weight was updated from 70 kilograms (kg) to 80 kg, and the fish consumption rate was updated from 17.4 grams per day to 22 grams per day). The board also proposes revising the source of the criteria in DEQ-7 consistent with EPA's recommended criteria (e.g., chlorobenzene changes from MCL to priority pollutant (PP)).

The board also proposes updating an additional 67 human health criteria in DEQ-7. These criteria are primarily pesticides for which EPA and DEQ have calculated health advisories. They are being recalculated using EPA's 2015 adopted exposure inputs described above in order to remain consistent with federal requirements.

The board proposes updating the human health criterion for total trihalomethanes. This criterion is based on the Safe Drinking Water Act maximum contaminant level. This change is proposed to make DEQ-7 consistent with federal requirements and DEQ's drinking water program.

Addition of new human health criterion: Dinitrophenols is an EPA 304(a) recommended criterion not currently listed in DEQ-7. The board proposes including this pollutant in DEQ-7 for consistency and compliance with federal regulations.

Updates to aquatic life criteria: The board proposes adoption of carbaryl as new aquatic life criteria and revisions to the cadmium aquatic life criteria consistent with the EPA 304(a) recommended criteria. For more information see: <https://www.epa.gov/wqc/aquatic-life-criteria-carbaryl> and <https://www.epa.gov/wqc/aquatic-life-criteria-cadmium>. Copies are also available at the Department of Environmental Quality, 1520 E. Sixth Avenue, P.O. Box 200901, Helena, MT 59620-0901.

Addition of new pesticides: The Montana Agricultural Chemical Groundwater Protection Act requires the board to adopt pesticide human health criteria for groundwater when new pesticides without criteria are found in groundwater in Montana. New pesticides discovered in groundwater in Montana for which criteria have been calculated include clothianidin, glufosinate ammonium, saflufenacil, thiamethoxam, and sulfentrazone.

Removal of criteria for color, turbidity, pH, and temperature: The board proposes removal of color, turbidity, pH, and temperature from DEQ-7. The purpose of DEQ-7 is to house numeric water quality criteria. The criteria for color, turbidity, pH, and temperature describe the values for those criteria based on natural conditions. In some stream classifications, these criteria reflect a slight variation of the natural condition. Natural conditions vary based on many factors, including changes in season and flow. Because color, turbidity, pH, and temperature do not have a set maximum value, they are not true numeric criteria. They are narrative

parameters because they rely on determination of the natural condition of the parameter in the receiving water.

In addition to removing these narrative criteria from the table in DEQ-7, the board proposes removal of a sentence in the introduction of DEQ-7 that provides examples of numeric standards that change with each stream classification because it erroneously lists color, turbidity, pH, and temperature as numeric criteria. Also, footnote (18) is specific to narrative criteria and is only used for pH and color, and therefore is proposed to be removed from DEQ-7. These changes are necessary to resolve confusion about how these criteria should be implemented. Additionally, the criteria for color, turbidity, pH, and temperature are described in detail in the use class descriptions in ARM 17.30 subchapter 6 and their inclusion in DEQ-7 is redundant and unnecessary.

Trigger Values for Nitrate: The board proposes correcting the trigger values for nitrate (as nitrogen [N]) and nitrate plus nitrite (as N) as follows: surface water trigger values are 10 micrograms per liter (µg/L), ground water trigger values are 5,000 µg/L. The trigger values would also include a reference to ARM 17.30.715. Trigger values are used to determine if an increase in concentration of a toxic parameter is nonsignificant per the nondegradation rules ARM 17.30.701, et seq. Due to clerical errors, "10" was omitted from both of the parameters above in the 2012 version of DEQ-7. Because of the removal of the "10," the trigger values read that the surface water trigger value is 5,000 µg/L, and that the ground water trigger value is included in ARM 17.30.715. This is incorrect and makes assessment of nondegradation for nitrate (as N) and nitrate plus nitrite (as N) impractical. The proposed changes would allow for nondegradation review of these two parameters as intended.

The board also proposes to include a reference to DEQ Circular 12 in the introduction to DEQ-7. This is necessary for clarity and consistency between the two documents.

17.30.607 WATER-USE CLASSIFICATIONS--CLARK FORK COLUMBIA RIVER DRAINAGE EXCEPT THE FLATHEAD AND KOOTENAI RIVER DRAINAGES

(1) The water-use classifications adopted for the Clark Fork of the Columbia River drainage are as follows:

- (a) Clark Fork River drainage except waters listed in (1)(a)(i) through (xv) B-1
- (i) through (vii) remain the same.
- (viii) Tin Cup Joe Creek drainage to the Deer Lodge water supply intake (approximately at latitude 46.3892, longitude -112.8543) A-Closed
- (ix) remains the same.
- (x) Fred Burr Lake and headwaters from source to the outlet of the lake (Philipsburg water supply at approximate latitude 46.3096, longitude -113.1746) A-Closed
- (xi) South Boulder Creek drainage to the Philipsburg water supply intake (approximately at latitude 46.3447, longitude -113.2266) A-1
- (xii) Rattlesnake Creek drainage to the Missoula water supply intake (approximately at latitude 46.9149, longitude -113.9638) A-Closed
- (xiii) through (xv) remain the same.

AUTH: 75-5-201, 75-5-301, MCA
IMP: 75-5-301, MCA

REASON: See reason statement below (ARM 17.30.611).

17.30.608 WATER-USE CLASSIFICATIONS--FLATHEAD RIVER

DRAINAGE (1) The water-use classifications adopted for the Flathead River are as follows:

- (a) through (a)(viii) remain the same.
- (b) Flathead Lake north of the Flathead Indian Reservation and waters of its tributaries from Flathead River inlet to U.S. Highway 93 bridge at Polson that lie outside of the Flathead Indian Reservation boundary except Swan River as listed in (1)(b)(i) and portions of Hellroaring Creek as listed in (1)(b)(i) through (iii) but including Swan Lake proper and Lake Mary Ronan proper..... A-1
 - (i) remains the same.
 - ~~(ii) Hellroaring Creek drainage to the Polson water supply intake..... A-Closed~~
 - ~~(iii) Remainder of Hellroaring Creek drainage..... B-1~~
- (c) Waters outside of the Flathead Indian Reservation that are tributary to the Flathead River drainage below the highway bridge at Polson to confluence with Clark Fork River except tributaries the Little Bitterroot River mainstem listed in (1)(c)(i) through (viii) and including the Flathead River drainage west of the Flathead Indian Reservation boundary..... B-1
 - ~~(i) Second Creek drainage to the Ronan water supply intake (approximately at latitude 47.546, longitude -114.0268)..... A-Closed~~
 - ~~(ii) Crow Creek (mainstem) from road crossing in section 16, T20N, R20W to the Flathead River..... B-2~~
 - ~~(iii) Little Bitterroot River (mainstem) from Hubbart Reservoir dam to the Flathead River Indian Reservation boundary..... B-2~~
 - ~~(iv) Hot Springs Creek drainage to the Hot Springs water supply intake (approximately at latitude 47.6096, longitude -114.688)..... A-Closed~~
 - ~~(v) Hot Springs Creek (mainstem) from the Hot Springs water supply intake to the Little Bitterroot River..... C-3~~
 - ~~(vi) Tributaries to Hot Springs Creek (if any) from the Hot Springs water supply intake to the Little Bitterroot River..... B-1~~
 - ~~(vii) Mission Creek drainage to the St. Ignatius water supply intake..... A-1~~
 - ~~(viii) Mission Creek (mainstem) from U.S. Highway No. 93 crossing to the Flathead River..... B-2~~

AUTH: 75-5-201, 75-5-301, MCA
IMP: 75-5-301, MCA

REASON: See reason statement below (ARM 17.30.611).

17.30.609 WATER-USE CLASSIFICATIONS--KOOTENAI RIVER

DRAINAGE (1) The water-use classifications adopted for the Kootenai River are as follows:

- (a) All waters except those listed in (1)(a)(i) through (iv)..... B-1

- (i) Deep Creek drainage (tributary to the Tobacco River) to the Fortine water supply intake (approximately at latitude 48.7631, longitude -114.8980) A-1
- (ii) Rainy Creek drainage to the W.R. Grace Company water supply intake (approximately at latitude 48.4485, longitude -115.4203) A-1
- (iii) Rainy Creek (mainstem) from the W.R. Grace Company water supply intake (approximately at latitude 48.4485, longitude -115.4203) to the Kootenai River C-1
- (iv) remains the same.

AUTH: 75-5-201, 75-5-301, MCA

IMP: 75-5-301, MCA

REASON: See reason statement below (ARM 17.30.611).

17.30.610 WATER-USE CLASSIFICATIONS--MISSOURI RIVER DRAINAGE EXCEPT YELLOWSTONE, BELLE FOURCHE, AND LITTLE MISSOURI RIVER DRAINAGES (1) The water-use classifications adopted for the

Missouri River are as follows:

- (a) Missouri River drainage to and including the Sun River drainage except tributaries listed in (1)(a)(i) through (xiii) B-1
- (i) through (iv) remain the same.
- (v) Rattlesnake Creek drainage to the Dillon water supply intake (approximately at latitude 45.2442, longitude -112.7953) A-1
- (vi) Indian Creek drainage to the Sheridan water supply intake (approximately at latitude 45.4787, longitude -112.1592) A-1
- (vii) Basin Creek drainage to the Basin water supply intake (approximately at latitude 46.2820, longitude -112.2730) A-1
- (viii) through (c) remain the same.
- (d) Marias River drainage except waters on the Blackfeet Indian Reservation and the tributaries and segments listed in (1)(d)(i) through (vi) B-2
- (i) Cutbank Creek drainage except waters listed in (1)(d)(i)(A) and (B) B-1
- (A) ~~Willow Creek (mainstem) from the Montana Highway No. 464 crossing about one-half mile north of Browning to Cutbank Creek~~ B-2
- (B) Cutbank Creek (mainstem) from Old Maids Coulee near Cut Bank to Two Medicine Creek B-2
- (ii) Two Medicine Creek drainage to the Blackfeet Indian Reservation Boundary except for the waters listed in (1)(d)(ii)(A) through (C) (B) B-1
- (A) Midvale Creek drainage to the East Glacier water supply intake Blackfeet Indian Reservation Boundary A-Closed
- (B) Summit Creek drainage to the Summit water supply intake (approximately at latitude 48.3184, longitude -113.3527) A-Closed
- (C) ~~Two Medicine Creek (mainstem) from Badger Creek to Birch Creek~~ B-2
- (iii) through (vi) remain the same.
- (e) Missouri River drainage from Marias River to Fort Peck Dam except waters listed in (1)(e)(i) through (vi) (v) C-3
- (i) through (D) remain the same.
- (iv) ~~Cow Creek drainage to but excluding Al's Creek~~ B-1

- (v) Musselshell River drainage to Deadman's Basin diversion canal above Shawmut except for the water listed in (1)(e)(v)(A) B-1
(A) remains the same.
- (v) Musselshell River drainage below Deadman's Basin diversion canal above Shawmut except for the waters listed in (1)(e)(v)(A) through (D) C-3
(A) through (f) remain the same.
- (g) Milk River drainage from source (or from the Glacier National Park Boundary) to the eastern mainstem crossing of the International Boundary B-1
- (h) Milk River drainage from the International Boundary to the Missouri River except waters within tribal boundaries and the tributaries listed in (1)(h)(g)(i) through (iv) B-3
(i) remains the same.
- (ii) Big Sandy Creek drainage from the Rocky Boy's Indian Reservation Boundary to Town of Big Sandy infiltration wells (approximately at latitude 48.1831, longitude -110.0851) B-1
(iii) remains the same.
- (iv) Peoples Creek drainage to and including the South Fork of Peoples Creek drainage except waters within the Fort Belknap Indian Reservation B-1
- (h) Missouri River drainage from Milk River to North Dakota boundary except tribal waters and waters listed in (1)(h)(i) through (iv) (iii) C-3
(i) remains the same.
- (ii) Wolf Creek drainage near Wolf Point B-2
- (iii) Antelope Creek drainage near Antelope B-3
- (iv) (iii) Poplar River drainage to the Fort Peck Indian Reservation boundary B-2

AUTH: 75-5-201, 75-5-301, MCA

IMP: 75-5-301, MCA

REASON: See reason statement below (ARM 17.30.611).

17.30.611 WATER-USE CLASSIFICATION--YELLOWSTONE RIVER DRAINAGE (1) The water-use classifications adopted for the Yellowstone River are as follows:

- (a) Yellowstone River drainage to the Laurel water supply intake (approximately at latitude ~~45.6557~~ 45.6545, longitude ~~-108.7594~~ -108.7590) B-1
- (b) Yellowstone River drainage from the Laurel water supply intake (approximately at latitude 45.6545, longitude -108.7590) to the Billings water supply intake (approximately at latitude 45.7745, longitude -108.4778) except waters on the Crow Indian Reservation and the tributaries listed in (1)(b)(i) through (iii) B-2
(i) through (iii) remain the same.
- (c) Yellowstone River drainage from the Billings water supply intake to the North Dakota state line excluding waters on the Crow Indian Reservation and the Northern Cheyenne Indian Reservation and including the Big Horn River drainage except the waters listed in (1)(c)(i) through (ix) (vii) C-3
(i) remains the same.
- (ii) Pryor Creek drainage to Interstate 90 outside the Crow Indian

<u>Reservation boundary</u>	B-1
(iii) Big Horn drainage above but excluding Williams Coulee near Hardin <u>and excluding waters within the Crow Indian Reservation</u>	B-1
(iv) Little Big Horn drainage above and including Lodgegrass Creek drainage near Lodge Grass	B-1
(v) Little Big Horn River drainage below Lodge Grass Creek	B-2
(vi) Big Horn River mainstem from Williams Coulee <u>the Crow Indian Reservation boundary to Yellowstone River</u>	B-2
(vii) through (ix) remain the same, but are renumbered (v) through (vii).	

AUTH: 75-5-201, 75-5-301, MCA

IMP: 75-5-301, MCA

REASON: The board proposes updating the surface water use designations that use drinking water intakes by including a more specific, defined endpoint location using latitude and longitude. This will remove confusion about where specific use classes begin and end on a stream.

The board proposes removing tribal waters from Montana's use class designations because the State of Montana does not have jurisdiction over tribal waters, and respects the water quality standards, including use class designations, for tribal waters set by the respective jurisdictional agencies. Therefore, it is unnecessary to include use class designations for these waters in state standards.

ARM 17.30.609(1)(a) references "waters except those listed in (1)(a)(i)," and should reference "waters except those listed in (1)(a)(i) through (iv)." The board proposes making this revision for accuracy.

17.30.619 INCORPORATIONS BY REFERENCE (1) The board adopts and incorporates by reference the following state and federal requirements and procedures as part of Montana's surface water quality standards:

(a) Department Circular DEQ-7, entitled "Montana Numeric Water Quality Standards" (~~October 2012~~ [effective month and year of this rule amendment] edition), which establishes numeric water quality criteria for toxic, carcinogenic, bioconcentrating, radioactive, and harmful parameters and also establishes human health-based water quality criteria for the following specific nutrients with toxic effects:

(i) through (b) remain the same.

(c) 40 CFR Part 136 (July 1, ~~2014~~ 2015), which establishes guidelines and procedures for the analysis of pollutants;

(d) 40 CFR 131.10(g), (h) and (j) (2000), which establishes criteria and guidelines for conducting a use attainability analysis; ~~and~~

(e) Department Circular DEQ-12A, entitled "Montana Base Numeric Nutrient Standards" (July 2014 edition), which establishes numeric water quality standards for total nitrogen and total phosphorus in surface waters; and

(f) The compliance schedule authorizing provision contained in the Montana Pollutant Discharge Elimination System Permit regulations at ARM 17.30.1350(1).

(2) and (3) remain the same.

AUTH: 75-5-201, 75-5-301, MCA

IMP: 75-5-301, 75-5-313, MCA

REASON: See reason for ARM 17.30.502, setting forth reasons for updates and revisions to DEQ-7.

The board also proposes to incorporate by reference the authorizing provision for compliance schedules for water quality-based effluent limitations (WQBELs) contained in the MPDES rules at ARM 17.30.1350(1) because in 2015, EPA revised 40 CFR 131.15, requiring EPA review and approval of state rules authorizing compliance schedules for water quality-based effluent limits in MPDES permits. EPA considers such authorizing provisions to be water quality standards.

Compliance schedules are Clean Water Act NPDES permitting tools that can be used in situations in which a discharger is unable to immediately achieve compliance with effluent limitations based on water quality standards. They allow dischargers additional time to take steps (e.g., planning and construction of required facilities) necessary to achieve compliance with such effluent limitations. (See 80 Fed. Reg. 51020, 51041 (August 21, 2015) available at <https://www.epa.gov/wqs-tech/final-rulemaking-update-national-water-quality-standards-regulation>. Copies are also available at the Department of Environmental Quality, 1520 E. Sixth Avenue, P.O. Box 200901, Helena, MT 59620-0901.)

ARM 17.30.1350(1) gives the MPDES program authority to use compliance schedules and details their requirements. This provision was adopted in 1989, but has not been submitted to EPA for approval because it was not considered a water quality standard at that time. The state will submit this provision to EPA in order to comply with the new regulatory requirement.

The board also proposes to update the reference to 40 CFR Part 136 to reference the most current regulation.

17.30.621 A-CLOSED CLASSIFICATION STANDARDS (1) and (2) remain the same.

(3) No person may violate the following specific water quality standards for waters classified A-Closed:

(a) The geometric mean number of *Escherichia coli* bacteria may not exceed 32 colony forming units per 100 milliliters and 10% percent of the samples may not exceed 64 colony forming units per 100 milliliters during any 30-day period. Water quality criteria for *Escherichia coli* are expressed in colony forming units per 100 milliliters of water or as most probable number, which is a statistical representation of the number of organisms in a sample, as incorporated by reference in 40 CFR 136.3(b).

(b) through (i) remain the same.

AUTH: 75-5-201, 75-5-301, MCA

IMP: 75-5-301, MCA

REASON: See reason statement below (ARM 17.30.657).

17.30.622 A-1 CLASSIFICATION STANDARDS (1) and (2) remain the

same.

(3) No person may violate the following specific water quality standards for waters classified A-1:

(a) The geometric mean number of *Escherichia coli* bacteria may not exceed 32 colony forming units per 100 milliliters and 10% percent of the samples may not exceed 64 colony forming units per 100 milliliters during any 30-day period if resulting from domestic sewage. Water quality criteria for *Escherichia coli* are expressed in colony forming units per 100 milliliters of water or as most probable number, which is a statistical representation of the number of organisms in a sample, as incorporated by reference in 40 CFR 136.3(b).

(b) through (k) remain the same.

AUTH: 75-5-201, 75-5-301, MCA

IMP: 75-5-301, MCA

REASON: See reason statement below (ARM 17.30.657).

17.30.623 B-1 CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified B-1:

(a) Water quality criteria for *Escherichia coli* are expressed in colony forming units per 100 milliliters of water or as most probable number, which is a statistical representation of the number of organisms in a sample, as incorporated by reference in 40 CFR 136.3(b). The water quality standard for *Escherichia coli* bacteria (E-coli) varies according to season, as follows:

(i) through (k) remain the same.

AUTH: 75-5-201, 75-5-301, MCA

IMP: 75-5-301, 75-5-313, MCA

REASON: See reason statement below (ARM 17.30.657).

17.30.624 B-2 CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified B-2:

(a) Water quality criteria for *Escherichia coli* are expressed in colony forming units per 100 milliliters of water or as most probable number, which is a statistical representation of the number of organisms in a sample, as incorporated by reference in 40 CFR 136.3(b). The water quality standard for *Escherichia coli* bacteria (E-coli) varies according to season, as follows:

(i) through (k) remain the same.

AUTH: 75-5-201, 75-5-301, MCA

IMP: 75-5-301, 75-5-313, MCA

REASON: See reason statement below (ARM 17.30.657).

17.30.625 B-3 CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified B-3:

(a) Water quality criteria for Escherichia coli are expressed in colony forming units per 100 milliliters of water or as most probable number, which is a statistical representation of the number of organisms in a sample, as incorporated by reference in 40 CFR 136.3(b). The water quality standard for Escherichia coli bacteria (E-coli) varies according to season, as follows:

(i) and through (k) remain the same.

AUTH: 75-5-201, 75-5-301, MCA

IMP: 75-5-301, 75-5-313, MCA

REASON: See reason statement below (ARM 17.30.657).

17.30.626 C-1 CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified C-1:

(a) Water quality criteria for Escherichia coli are expressed in colony forming units per 100 milliliters of water or as most probable number, which is a statistical representation of the number of organisms in a sample, as incorporated by reference in 40 CFR 136.3(b). The water quality standard for Escherichia coli bacteria (E-coli) varies according to season, as follows:

(i) through (k) remain the same.

AUTH: 75-5-201, 75-5-301, MCA

IMP: 75-5-301, 75-5-313, MCA

REASON: See reason statement below (ARM 17.30.657).

17.30.627 C-2 CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified C-2:

(a) Water quality criteria for Escherichia coli are expressed in colony forming units per 100 milliliters of water or as most probable number, which is a statistical representation of the number of organisms in a sample, as incorporated by reference in 40 CFR 136.3(b). The water quality standard for Escherichia coli bacteria (E-coli) varies according to season, as follows:

(i) through (k) remain the same.

AUTH: 75-5-201, 75-5-301, MCA

IMP: 75-5-301, 75-5-313, MCA

REASON: See reason statement below (ARM 17.30.657).

17.30.628 I CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified I:

(a) Water quality criteria for Escherichia coli are expressed in colony forming units per 100 milliliters of water or as most probable number, which is a statistical representation of the number of organisms in a sample, as incorporated by reference in 40 CFR 136.3(b). The water quality standard for Escherichia coli bacteria (E-coli) varies according to seasons as follows:

(i) through (k) remain the same.

AUTH: 75-5-201, 75-5-301, MCA

IMP: 75-5-301, 75-5-313, MCA

REASON: See reason statement below (ARM 17.30.657).

17.30.629 C-3 CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified C-3:

(a) Water quality criteria for Escherichia coli are expressed in colony forming units per 100 milliliters of water or as most probable number, which is a statistical representation of the number of organisms in a sample, as incorporated by reference in 40 CFR 136.3(b). The water quality standard for Escherichia coli bacteria (E-coli) varies according to season, as follows:

(i) through (k) remain the same.

AUTH: 75-5-201, 75-5-301, MCA

IMP: 75-5-301, 75-5-313, MCA

REASON: See reason statement below (ARM 17.30.657).

17.30.641 SAMPLING METHODS (1) Water quality monitoring, including methods of sample collection, preservation, and analysis used to determine compliance with the standards must be in accordance with 40 CFR Part 136 (July 1, 2007 2015) or other method allowed by the department.

AUTH: 75-5-201, 75-5-301, MCA

IMP: 75-5-301, MCA

REASON: The board proposes to update the reference to 40 CFR Part 136 to reference the most current regulation.

17.30.646 BIOASSAYS (1) Bioassay tolerance concentrations must be determined using the latest available research results for the materials, by bioassay tests procedures for simulating actual stream conditions as set forth in 40 CFR Part 136 (July 1, 2007 2015). Any bioassay studies made must be made using a representative sensitive local species and life stages of economic or ecological importance, except that other species whose relative sensitivity is known may be used when there is difficulty in providing the more sensitive species in sufficient numbers or when such species are unsatisfactory for routine confined bioassays. All bioassay methods and species selections must be approved by the department.

AUTH: 75-5-201, 75-5-301, MCA

IMP: 75-5-301, MCA

REASON: The board proposes to update the reference to 40 CFR Part 136 to reference the most current regulation.

17.30.650 D-1 CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified D-1:

(a) remains the same.

(b) the geometric mean number of Escherichia coli bacteria may not exceed 630 colony forming units per 100 milliliters and 10% percent of the samples may not exceed 1,260 colony forming units per 100 milliliters during any 30-day period.

Water quality criteria for Escherichia coli are expressed in colony forming units per 100 milliliters of water or as most probable number, which is a statistical representation of the number of organisms in a sample, as incorporated by reference in 40 CFR 136.3(b).

(3) remains the same.

AUTH: 75-5-301, MCA

IMP: 75-5-301, MCA

REASON: See reason statement below (ARM 17.30.657).

17.30.651 D-2 CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified D-2:

(a) through (c) remain the same.

(d) the geometric mean number of Escherichia coli bacteria may not exceed 630 colony forming units per 100 milliliters and 10% percent of the samples may not exceed 1,260 colony forming units per 100 milliliters during any 30-day period.

Water quality criteria for Escherichia coli are expressed in colony forming units per 100 milliliters of water or as most probable number, which is a statistical representation of the number of organisms in a sample, as incorporated by reference in 40 CFR 136.3(b).

AUTH: 75-5-301, MCA

IMP: 75-5-301, MCA

REASON: See reason statement below (ARM 17.30.657).

17.30.652 E-1 CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified E-1:

(a) remains the same.

(b) the geometric mean number of Escherichia coli bacteria may not exceed 630 colony forming units per 100 milliliters and 10% percent of the samples may not

exceed 1,260 colony forming units per 100 milliliters during any 30-day period.
Water quality criteria for Escherichia coli are expressed in colony forming units per 100 milliliters of water or as most probable number, which is a statistical representation of the number of organisms in a sample, as incorporated by reference in 40 CFR 136.3(b).

(3) remains the same.

AUTH: 75-5-301, MCA

IMP: 75-5-301, MCA

REASON: See reason statement below (ARM 17.30.657).

17.30.653 E-2 CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified E-2:

(a) through (c) remain the same.

(d) the geometric mean number of Escherichia coli bacteria may not exceed 630 colony forming units per 100 milliliters and 10% percent of the samples may not exceed 1,260 colony forming units per 100 milliliters during any 30-day period.

Water quality criteria for Escherichia coli are expressed in colony forming units per 100 milliliters of water or as most probable number, which is a statistical representation of the number of organisms in a sample, as incorporated by reference in 40 CFR 136.3(b).

AUTH: 75-5-301, MCA

IMP: 75-5-301, MCA

REASON: See reason statement below (ARM 17.30.657).

17.30.654 E-3 CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified E-3:

(a) the geometric mean number of Escherichia coli bacteria may not exceed 630 colony forming units per 100 milliliters and 10% percent of the samples may not exceed 1,260 colony forming units per 100 milliliters during any 30-day period.

Water quality criteria for Escherichia coli are expressed in colony forming units per 100 milliliters of water or as most probable number, which is a statistical representation of the number of organisms in a sample, as incorporated by reference in 40 CFR 136.3(b).

(b) through (3) remain the same.

AUTH: 75-5-301, MCA

IMP: 75-5-301, MCA

REASON: See reason statement below (ARM 17.30.657).

17.30.655 E-4 CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified E-4:

(a) and (b) remain the same.

(c) the geometric mean number of Escherichia coli bacteria may not exceed 630 colony forming units per 100 milliliters and 10% percent of the samples may not exceed 1,260 colony forming units per 100 milliliters during any 30-day period.

Water quality criteria for Escherichia coli are expressed in colony forming units per 100 milliliters of water or as most probable number, which is a statistical representation of the number of organisms in a sample, as incorporated by reference in 40 CFR 136.3(b).

AUTH: 75-5-301, MCA

IMP: 75-5-301, MCA

REASON: See reason statement below (ARM 17.30.657).

17.30.656 E-5 CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified E-5:

(a) remains the same.

(b) the geometric mean number of Escherichia coli bacteria may not exceed 630 colony forming units per 100 milliliters and 10% percent of the samples may not exceed 1,260 colony forming units per 100 milliliters during any 30-day period.

Water quality criteria for Escherichia coli are expressed in colony forming units per 100 milliliters of water or as most probable number, which is a statistical representation of the number of organisms in a sample, as incorporated by reference in 40 CFR 136.3(b).

(3) remains the same.

AUTH: 75-5-301, MCA

IMP: 75-5-301, MCA

REASON: See reason statement (ARM 17.30.657).

17.30.657 F-1 CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified F-1:

(a) through (c) remain the same.

(d) the geometric mean number of Escherichia coli bacteria may not exceed 630 colony forming units per 100 milliliters and 10% percent of the samples may not exceed 1,260 colony forming units per 100 milliliters during any 30-day period.

Water quality criteria for Escherichia coli are expressed in colony forming units per 100 milliliters of water or as most probable number, which is a statistical representation of the number of organisms in a sample, as incorporated by reference in 40 CFR 136.3(b).

AUTH: 75-5-301, MCA

IMP: 75-5-301, MCA

REASON: Traditional plate tests for Escherichia coli (E. coli), including membrane filtration, estimate or count "colonies" of bacteria reported as colony forming units (cfu). These provide a direct count of an indicator organism (E. coli) in water based on the development of colonies in/on media and a calculation is performed. While these microscopic counts may be more accurate, they are costly and time consuming, and the problem of bacteria viability remains. Very few tests are conducted to determine live and dead colonies. Exact counts are generally not feasible to obtain. Newer tests, such as Colilert report data, are reported as most probable number (mpn) which is a statistical representation of what level of E. coli is likely present in a sample. While mpn and cfu are not entirely equivalent, for the purposes of reporting, these terms are currently used interchangeably by the EPA. EPA has approved both these methods for enumeration in federal rule for ambient water (40 CFR, 2003) and for wastewater and sludge (40 CFR, 2007). The board proposes adding mpn to the E. coli surface water criteria so that E. coli may be reported to the department in either cfu or mpn.

17.30.702 DEFINITIONS The following definitions, in addition to those in 75-5-103, MCA, apply throughout this subchapter (Note: 75-5-103, MCA, includes definitions for "base numeric nutrient standards," "degradation," "existing uses," "high quality waters," "mixing zone," and "parameter"):

(1) through (7) remain the same.

(8) "High quality waters" is defined in 75-5-103(10)(13), MCA, and does not include Class I surface waters (ARM 17.30.628) or Class III or Class IV ground waters (ARM 17.30.1006(3) through (4)).

(9) through (26) remain the same.

(27) The board adopts and incorporates by reference:

(a) Department Circular DEQ-7, entitled "Montana Numeric Water Quality Standards" (~~October 2012~~ effective month and year of this rule amendment edition), which establishes water quality criteria for toxic, carcinogenic, bioconcentrating, radioactive, and harmful parameters and also establishes human health-based water quality criteria for the following specific nutrients with toxic effects:

(i) through (c) remain the same.

(d) 40 CFR Part 136 (July 1, ~~2007~~ 2015) which contains guidelines establishing test procedures for the analysis of pollutants.

(e) remains the same.

AUTH: 75-5-301, 75-5-303, MCA

IMP: 75-5-303, MCA

REASON: See reasons for ARM 17.30.502 setting forth reasons for updates and revisions to DEQ-7.

ARM 17.30.702(8) references the Montana Code Annotated definition of high quality waters as 75-5-103(10). Because of revisions to that statute, that definition is

now at 75-5-103(13). The board proposes to remove the reference to the subsection in order to make the citation accurate and to eliminate the need to amend the rule because of a future amendment to the statute. The board also proposes to update the reference to 40 CFR Part 136 to reference the most current regulations.

17.30.715 CRITERIA FOR DETERMINING NONSIGNIFICANT CHANGES IN WATER QUALITY (1) The following criteria will be used to determine whether certain activities or classes of activities will result in nonsignificant changes in existing water quality due to their low potential to affect human health or the environment. These criteria consider the quantity and strength of the pollutant, the length of time the changes will occur, and the character of the pollutant. Except as provided in (2), changes in existing surface or ground water quality resulting from the activities that meet all the criteria listed below are nonsignificant, and are not required to undergo review under 75-5-303, MCA:

(a) through (e) remain the same.

(f) changes in the quality of water for any harmful parameter, nutrients listed at ARM 17.30.631, and parameters listed in Department Circular DEQ-12A, except as specified in (1)(g), for which water quality standards have been adopted other than carcinogenic, bioconcentrating, or toxic parameters, in either surface or ground water, if the changes outside of a mixing zone designated by the department are less than ten percent of the applicable standard and the existing water quality level is less than 40 percent of the standard;

(g) through (4) remain the same.

AUTH: 75-5-301, 75-5-303, MCA

IMP: 75-5-303, MCA

REASON: Most numeric nutrient standards for Montana are housed in Circular DEQ-12A and were adopted by the board in 2014. However, the board previously adopted numeric nutrient standards on the Clark Fork River and these are contained in ARM 17.30.631. During the adoption of DEQ-12A, which included the circular's inclusion in the nondegradation nonsignificance criteria (ARM 17.30.715), the earlier-adopted nutrient standards for the Clark Fork River were inadvertently excluded from nondegradation review. This change will address this oversight. Although benthic algal chlorophyll a criteria are included with the nitrogen and phosphorus criteria in 17.30.631, chlorophyll a is not subject to nondegradation review under ARM 17.30.715(1)(f). This is because nitrogen and phosphorus are the nutrient parameters included in the rule, and growth of chlorophyll a is the result of an overabundance of those nutrients. Therefore, controlling nitrogen and phosphorus through nondegradation will prevent overgrowth of chlorophyll a and will ensure that the chlorophyll a criteria are met.

17.30.1001 DEFINITIONS The following definitions, in addition to those in 75-5-103, MCA, apply throughout this subchapter:

(1) remains the same.

(2) "DEQ-7" means Department Circular DEQ-7, entitled "Montana Numeric Water Quality Standards" (~~October 2012~~ effective month and year of this rule)

amendment] edition), which establishes water quality criteria for toxic, carcinogenic, radioactive, bioconcentrating, nutrient, and harmful parameters.

(a) The board adopts and incorporates by reference Department Circular DEQ-7, entitled "Montana Numeric Water Quality Standards" (~~October 2012~~ [effective month and year of this rule amendment] edition), which establishes water quality criteria for toxic, carcinogenic, bioconcentrating, nutrient, radioactive, and harmful parameters.

(3) through (17) remain the same.

AUTH: 75-5-201, 75-5-401, MCA

IMP: 75-5-301, 75-5-401, MCA

REASON: See reason for ARM 17.30.502 setting forth reasons for update and revisions to DEQ-7.

17.30.1007 SAMPLE COLLECTION, PRESERVATION, AND ANALYSIS METHODS (1) Methods of sample collection, preservation, and sample analysis used to determine compliance with the standards in this subchapter must be in accordance with 40 CFR Part 136 "Guidelines Establishing Test Procedures for the Analysis of Pollutants" (July ~~2007~~ 2015), or the following:

(a) through (4) remain the same.

AUTH: 75-5-301, MCA

IMP: 75-5-301, MCA

REASON: The board proposes to update the reference to 40 CFR Part 136 to reference the most current regulation.

17.30.1322 APPLICATION FOR A PERMIT (1) through (17) remain the same.

(18) The board adopts and incorporates by reference the following federal regulations as part of the Montana pollutant discharge elimination system. Copies of these federal regulations may be obtained from the Department of Environmental Quality, P.O. Box 200901, Helena, MT 59620-0901.

(a) 40 CFR Part 136 (July 1, ~~2014~~ 2015), which sets forth guidelines establishing test procedures for the analysis of pollutants;

(b) through (f) remain the same.

AUTH: 75-5-201, 75-5-401, MCA

IMP: 75-5-401, MCA

REASON: The board proposes to update the reference to 40 CFR Part 136 to reference the most current regulation.

17.36.345 ADOPTION BY REFERENCE (1) For purposes of this chapter, the department adopts and incorporates by reference the following documents. All references to these documents in this chapter refer to the edition set out below:

- (a) through (d) remain the same.
- (e) Department Circular DEQ-7, "Montana Numeric Water Quality Standards" (~~October 2012~~ [effective month and year of this rule amendment] edition);
- (f) through (2) remain the same.

AUTH: 76-4-104, MCA

IMP: 76-4-104, MCA

REASON: See ARM 17.30.502, setting forth reasons for update and revisions to DEQ-7.

17.55.109 INCORPORATION BY REFERENCE (1) For the purposes of this subchapter, the department adopts and incorporates by reference:

- (a) Department Circular DEQ-7, "Montana Numeric Water Quality" (~~October 2012~~ [effective month and year of this rule amendment] edition);
- (b) through (5) remain the same.

AUTH: 75-10-702, 75-10-704, MCA

IMP: 75-10-702, 75-10-704, 75-10-711, MCA

REASON: See ARM 17.30.502, setting forth reasons for update and revisions to DEQ-7.

17.56.507 ADOPTION BY REFERENCE (1) For purposes of this subchapter, the department adopts and incorporates by reference:

- (a) Department Circular DEQ-7, "Montana Numeric Water Quality Standards" (~~October 2012~~ [effective month and year of this rule amendment] edition);
- (b) through (3) remain the same.

AUTH: 75-11-319, 75-11-505, MCA

IMP: 75-11-309, 75-11-505, MCA

REASON: See ARM 17.30.502, setting forth reasons for update and revisions to DEQ-7.

17.56.608 ADOPTION BY REFERENCE (1) For purposes of this subchapter, the department adopts and incorporates by reference:

- (a) Department Circular DEQ-7, "Montana Numeric Water Quality Standards" (~~October 2012~~ [effective month and year of this rule amendment] edition);
- (b) through (3) remain the same.

AUTH: 75-11-319, 75-11-505, MCA

IMP: 75-11-309, 75-11-505, MCA

REASON: See ARM 17.30.502, setting forth reasons for update and revisions to DEQ-7.

5. Concerned persons may submit their data, views, or arguments, either orally or in writing, at the hearing. Written data, views, or arguments may also be submitted to Denise Hartman, Administrative Rules Coordinator, Department of Environmental Quality, 1520 E. Sixth Avenue, P.O. Box 200901, Helena, Montana 59620-0901; faxed to (406) 444-4386; or e-mailed to dhartman2@mt.gov, no later than 5:00 p.m. _____, 2017. To be guaranteed consideration, mailed comments must be postmarked on or before that date.

6. The board and department maintains a list of interested persons who wish to receive notices of rulemaking actions proposed by this agency. Persons who wish to have their name added to the list shall make a written request that includes the name, e-mail, and mailing address of the person to receive notices and specifies that the person wishes to receive notices regarding: air quality; hazardous waste/waste oil; asbestos control; water/wastewater treatment plant operator certification; solid waste; junk vehicles; infectious waste; public water supplies; public sewage systems regulation; hard rock (metal) mine reclamation; major facility siting; opencut mine reclamation; strip mine reclamation; subdivisions; renewable energy grants/loans; wastewater treatment or safe drinking water revolving grants and loans; water quality; CECRA; underground/above ground storage tanks; MEPA; or general procedural rules other than MEPA. Notices will be sent by e-mail unless a mailing preference is noted in the request. Such written request may be mailed or delivered to Denise Hartman, Administrative Rules Coordinator, Department of Environmental Quality, 1520 E. Sixth Avenue, P.O. Box 200901, Helena, Montana 59620-0901, faxed to the office at (406) 444-4386, e-mailed to Denise Hartman at dhartman2@mt.gov; or may be made by completing a request form at any rules hearing held by the department.

7. Ben Reed, attorney for the department, has been designated to preside over and conduct the hearing.

8. The bill sponsor contact requirements of 2-4-302, MCA, do not apply.

9. With regard to the requirements of 2-4-111, MCA, the department has determined that the amendment of the above-referenced rules will not significantly and directly impact small businesses.

Reviewed by: DEPARTMENT OF ENVIRONMENTAL
QUALITY

JOHN F. NORTH
Rule Reviewer

BY: _____
TOM LIVERS
Director

Certified to the Secretary of State, _____, 2016.