



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8**

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MEMORANDUM

SUBJECT: Implementation by Montana of its Narrative Water Quality Standard in lieu of the Clean Water Act Applicable Numeric Nutrient Criteria

FROM: Judy Bloom, Manager
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TO: The File

I. Introduction

In 2014, Montana adopted water quality standards (WQS) for nutrients for wadeable streams and certain segments of the Yellowstone River. This memorandum documents EPA's review of the state of Montana's implementation of its WQS in the context of Clean Water Act (CWA or Act) National Pollutant Discharge Elimination System (NPDES) permits for facilities that discharge to the waterbodies to which the state's numeric nutrient criteria (NNC) apply. After reviewing the available documentation, EPA concludes that Montana has not adequately implemented the state's water quality standards in a manner that ensures protection of designated uses as required by the CWA and EPA's implementing regulations. Relevant background and a summary of the review is provided below.

II. Statutory and Regulatory Background

Water Quality Standards

The CWA recognizes states¹ as the primary authority to set water quality standards (WQS). CWA sections 303(a)-(c). WQS consist of designated uses for a particular water body or category of water bodies; numeric and/or narrative criteria necessary to protect those uses; and provisions to minimize or prevent degradation of water quality (antidegradation). CWA section 303(c)(2)(A); 40 C.F.R. § 131.6.²

States first identify the "designated uses" of each waterbody. CWA section 303(c)(2)(A); 40 C.F.R. § 131.10(a). Designated uses are waterbody goals such as supporting aquatic life and human activities, including recreation and use as a public water supply, that may or may not be currently attained. CWA section 101(a) states that the national goal, wherever attainable, is to provide for the "protection and propagation of fish, shellfish, and wildlife, and recreation in and on the water." The WQS regulations interpret CWA section 101(a)(2) to effectively establish a "rebuttable presumption" that recreational and

¹ CWA section 518(e) specifically authorizes EPA to treat eligible Indian tribes in the same manner as states for purpose of CWA section 303. See also 40 C.F.R. § 131.8.

² This memorandum focuses on designated uses and water quality criteria to protect those uses as well as NPDES permitting. The memorandum does not discuss antidegradation in detail.

aquatic life uses are attainable and therefore must be assigned to a water body, unless a state or tribe affirmatively demonstrates, with appropriate documentation, that such uses are not attainable. 40 C.F.R. §§ 131.10(a), (g).

Water quality criteria are “elements of State [WQS], expressed as constituent concentrations, levels or narrative statements, representing a quality of water that supports a particular use.” 40 C.F.R. § 131.3(b). States must adopt water quality criteria that protect the designated use, and the criteria “must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use.” 40 C.F.R. § 131.11(a).

Water Quality Standard Variances

EPA’s WQS regulations authorize states to adopt a WQS variance, where appropriate, to make incremental progress toward attaining the “underlying” designated use and criterion. 40 C.F.R. § 131.14. A WQS variance is a time-limited designated use and criterion for a specific pollutant(s) or water quality parameter(s) that reflect the highest attainable condition during the term of the WQS variance. 40 C.F.R. § 131.3(o). A WQS variance is a WQS subject to EPA review and approval or disapproval. 40 C.F.R. § 131.14.

EPA Review of Water Quality Standards

Any new or revised WQS, including WQS variances, adopted by a state must be submitted to EPA for review to ensure that the requirements of the Act and implementing regulations are met. CWA section 303(c); 40 C.F.R. § 131.20(c). EPA must approve the WQS within 60 days or disapprove the WQS within 90 days. CWA section 303(c); 40 C.F.R. § 131.21(a).

The EPA’s authority and duty to review and approve or disapprove a new or revised WQS is not dependent upon whether the provision was submitted to the EPA for review.³ In October 2012, the EPA posted a document online, entitled: “*What is a New or Revised Water Quality Standard Under CWA 303(c)(3)? Frequently Asked Questions*” (FAQs).⁴ The EPA developed the document as an aid to discern when state provisions constitute new or revised WQS, stating: “To date, EPA has evaluated each situation on a case-by-case basis. These FAQs consolidate EPA’s plain language interpretation (informed by the CWA, EPA’s implementing regulations at 40 C.F.R. Part 131, and relevant case law) of what constitutes a new or revised water quality standard that the Agency has the CWA Section 303(c)(3) authority and duty to approve or disapprove.” The FAQs were, in part, an outgrowth of the Agency’s experience in prior cases, and they are currently referenced in the EPA’s *Water Quality Standards Handbook*. The EPA’s FAQs describe a 4-part test: if all four questions below are answered “yes,” then the provision would likely constitute a new or revised WQS that the EPA has the authority and duty to approve or disapprove under CWA Section 303(c)(3).

- 1) Is it a legally binding provision adopted or established pursuant to state or tribal law?

³ The U.S. Court of Appeals for the 11th Circuit has held that EPA has a mandatory duty to act on new or revised state WQS, whether or not they are submitted to EPA. *Miccosukee Tribe of Indians of Florida v. EPA*, 105 F.3d 599 (11th Cir. 1997); *FPIRG v. EPA*, 386 F.3d 1070 (11th Cir. 2004) (concurring with the reasoning in *Miccosukee*).

⁴ *What is a New or Revised Water Quality Standard Under CWA 303(c)? Frequently Asked Questions*. Office of Water, U.S. Environmental Protection Agency. EPA No. 820-F-12-017 (October 2012) <https://www.epa.gov/sites/default/files/2014-11/documents/cwa303faq.pdf>.

- 2) Does the provision address designated uses, water quality criteria (narrative or numeric) to protect designated uses, and/or antidegradation requirements for waters of the United States?
- 3) Does the provision express or establish the desired condition (e.g., uses, criteria) or instream level of protection (e.g., antidegradation requirements) for waters of the United States immediately or mandate how it will be expressed or established for such waters in the future?
- 4) Does the provision establish a new WQS or revise an existing WQS?

If EPA determines that a state's new or revised WQS is not consistent with the applicable requirements of the CWA and implementing regulations, EPA must disapprove the WQS within 90 days and specify the changes needed to meet the applicable requirements. CWA section 303(c)(3); 40 C.F.R. § 131.21. The CWA provides the state another 90 days to adopt revised WQS that meet the CWA requirements. If the state fails to do so, EPA must promptly propose and within 90 days of proposal, must promulgate such standard. CWA section 303(c)(4).

EPA must approve any new or revised WQS adopted by states for those standards to be applicable for CWA purposes (e.g., National Pollutant Discharge Elimination System (NPDES) permitting). 40 C.F.R. § 131.21(c)(2).

NPDES Permitting Program

Under CWA section 301(a) it is unlawful for any person to discharge any pollutant without authorization under CWA section 402, among other enumerated sections of the Act. The NPDES program, which is created by CWA section 402, requires any point source that discharges pollutants into waters of the United States to obtain an NPDES permit prior to discharging such pollutants. CWA section 402; 40 C.F.R. § 122.1(b). EPA may approve qualified state, territorial, or tribal government agencies to administer their own NPDES program. CWA section 402(b); 40 C.F.R. Part 123. If EPA approves a program, the state assumes permitting authority in lieu of EPA. CWA section 402(c); 40 C.F.R. Part 123.

Even after a state is approved to issue permits, EPA maintains authority to review and object to permits that are outside the guidelines and requirements of the Act. CWA section 402(d); 40 C.F.R. § 123.44 If the permitting agency does not satisfactorily address the objection, EPA may issue the permit directly. 40 C.F.R. § 123.44(h).

EPA authorized the state of Montana to implement the NPDES program on June 10, 1974. *See* 39 Fed. Reg. 26061 (July 16, 1974).

NPDES Permit Development

As described in EPA's NPDES Permit Writer's Manual, EPA recommends that all NPDES permits include, at a minimum, five sections: cover page, effluent limitations, monitoring and reporting requirements, special conditions and standard conditions.⁵

In addition to the components of the permit, a fact sheet or statement of basis explaining the rationale for permit conditions makes up part of the documentation that supports a draft permit. 40 C.F.R. §§ 124.8, 124.56.

The first major step in the permit development process is deriving technology-based effluent limitations (TBELs). CWA sections 301(b)(1)(A), (B); 40 C.F.R. § 122.44(a); 40 C.F.R. Part 133. Following that

⁵ U.S. Environmental Protection Agency NPDES Permit Writers' Manual at page 3-2 available at https://www.epa.gov/sites/default/files/2015-09/documents/pwm_2010.pdf.

step, the permit writer derives effluent limitations that are protective of applicable water quality standards (i.e., water quality-based effluent limitations [WQBELs]) as needed. CWA section 301(b)(1)(C); 40 C.F.R. § 122.44(d).

The permit writer then includes as final limitations in the NPDES permit both the TBELs and any more stringent WQBELs, after conducting an anti-backsliding analysis if necessary. CWA section 402(o); 40 C.F.R. § 122.44(l); 125.3(a). The permit writer must document the decision-making process for deriving limitations in the permit fact sheet. 40 C.F.R. §§ 124.8, 124.56.

Development of NPDES Permit Water Quality Based Effluent Limitations⁶

When drafting an NPDES permit, a permit writer must consider the impact of the proposed discharge on the quality of the receiving water. Water quality goals for a waterbody are defined by state WQS. By analyzing the effect of a discharge on the receiving water, a permit writer could find that TBELs alone will not achieve the applicable water quality standards. In such cases, the CWA and its implementing regulations require development of WQBELs. WQBELs help meet the CWA objective of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters and the goal of water quality that provides for the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water. WQBELs are designed to protect water quality by ensuring that water quality standards are met in the receiving water. EPA's implementing regulations establish minimum consistent procedures for states and EPA to use in developing WQBELs. 40 C.F.R. § 122.44(d), 54 Fed. Reg. 23867 (June 2, 1989).

WQBELs must control all pollutants or pollutant parameters which the permitting authority determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standards, including state narrative criteria for water quality. 40 C.F.R. § 122.44(d)(1)(i).

When determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a state water quality standard, the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water. 40 C.F.R. § 122.44(d)(1)(ii).

When the permitting authority determines, using the procedures in 40 C.F.R. § 122.44 (d)(1)(ii), that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a state numeric criteria within a state water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant. 40 C.F.R. § 122.44 (d)(1)(iii).

Where a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential (RP) to cause, or contributes to an excursion above a narrative criterion within an applicable state water quality standard, the permitting authority must establish effluent limits using one of more of the following options:

- (A) Establish effluent limits using a calculated numeric water quality criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and will fully protect the designated use. Such a criterion may be

⁶ The detailed discussion of NPDES permitting in this memorandum is limited to water quality based effluent limitations because that is the focus of EPA's review of Montana's NPDES permits in this memorandum.

- derived using a proposed state criterion, or an explicit state policy or regulation interpreting its narrative water quality criterion, supplemented with other relevant information which may include: EPA's October 1983 Water Quality Standards Handbook, risk assessment data, exposure data, information about the pollutant from the Food and Drug Administration, and current EPA criteria documents; or
- (B) Establish effluent limits on a case-by-case basis, using EPA's water quality criteria, published under section 304(a) of the CWA, supplemented where necessary by other relevant information; or
 - (C) Establish effluent limitations on an indicator parameter for the pollutant of concern, provided:
 - (1) The permit identifies which pollutants are intended to be controlled by the use of the effluent limitation;
 - (2) The fact sheet required by 124.56 sets forth the basis for the limit, including a finding that compliance with the effluent limit on the indicator parameter will result in controls on the pollutant of concern which are sufficient to attain and maintain applicable water quality standards;
 - (3) The permit requires all effluent and ambient monitoring necessary to show that during the term of the permit the limit on the indicator parameter continues to attain and maintain applicable water quality standards; and
 - (4) The permit contains a reopener clause allowing the permitting authority to modify or revoke and reissue the permit if the limits on the indicator parameter no longer attain and maintain applicable water quality standards.

40 C.F.R. § 122.44(d)(1)(vi).

III. Relevant Factual Background⁷

EPA Approval of Montana's WQS for Nutrients and Associated Litigation

In 2014, Montana adopted WQS for nutrients – total nitrogen (TN) and total phosphorus (TP) for Wadeable streams and certain segments of the Yellowstone River – and submitted the package to EPA for action under CWA section 303.⁸ The standards include numeric nutrient criteria (NNC), WQS variances, and non-severability provisions.⁹ The non-severability provisions tied the WQS criteria with the WQS general variances provisions.¹⁰ If certain triggering events occurred, including EPA disapproval or court invalidation of the WQS variances, the entire package, including the numeric nutrient criteria, would be dissolved.¹¹ EPA approved the numeric criteria and variances in 2015.¹² EPA did not act on the non-severability provisions in 2015.¹³

⁷ Montana's adoption of NNC, accompanying variances and non-severability provisions, EPA's actions on Montana's water quality standards, and associated litigation and legislation have a complex factual and procedural background. Relevant portions of this background are provided here as context for EPA's review of Montana's NPDES permitting record over the past two years but is not a comprehensive review of that background.

⁸ February 26, 2015 Letter from Martin Hestmark, Assistant Regional Administrator Office of Ecosystems Protection and Remediation, EPA Region 8 to Tom Livers, Acting Director, MDEQ, and Robin Shropshire, Chairman, Montana Board of Environmental Review, at page 1.

⁹ *Id.* at page 1 and accompanying rationale at page 3.

¹⁰ *Id.*

¹¹ *Id.*

¹² February 26, 2015 Letter from Martin Hestmark, Assistant Regional Administrator Office of Ecosystems Protection and Remediation, EPA Region 8 to Tom Livers, Acting Director, MDEQ, and Robin Shropshire, Chairman, Montana Board of Environmental Review, at page 2.

¹³ *Id.* at accompanying rationale page 3.

In 2016, Upper Missouri Waterkeeper (Waterkeeper) challenged EPA's approval of the WQS variances in the U.S. District Court for the District of Montana.¹⁴ Montana later revised its variance in 2017 and EPA approved the revisions for a subset of dischargers.¹⁵ Waterkeeper amended its complaint to challenge EPA's 2017 approval decision.¹⁶ The state of Montana, the National Association of Clean Water Agencies, the Montana League of Cities and Towns, and Treasure State Resources, intervened in the litigation from the outset.¹⁷

The district court issued multiple orders throughout 2019 regarding its review of EPA's action on Montana's submission.¹⁸ The court remanded the matter to Montana and EPA to act in accordance with its orders and although the court partially vacated the variance, it stayed its vacatur until EPA approved a replacement variance that complied with the court's orders.¹⁹

Various parties including EPA appealed the district court's orders to the U.S. Court of Appeals for the Ninth Circuit.²⁰

Montana submitted a revised variance to EPA in November 2019 to comply with the district court's orders.²¹ In February 2020, EPA disapproved Montana's revisions as not complying with the district court's orders although EPA did not agree with the district court's decision with respect to the requirements for the revised variance.²²

At the same time as issuing its disapproval to respond to the district court's order, EPA approved the non-severability provisions tying the variances to the underlying criteria.²³ In its letter, EPA stated that the Agency was expressing no view at the time as to the specific circumstances, including the disapproval of the revised variance as not complying with the district court order, that would trigger the non-severability provisions.²⁴ Montana and various stakeholders interpreted EPA's disapproval action as triggering the non-severability provisions, which dissolved the numeric nutrient criteria and variance.²⁵

Waterkeeper filed a new case in the district court challenging EPA's 2020 approval of Montana's non-severability provisions. Montana, the Montana League of Cities and Towns and Treasure State Resources Association intervened in this portion of the litigation.²⁶ The National Association of Clean Water Agencies did not intervene in this portion of the litigation.²⁷

¹⁴ *Upper Missouri Waterkeeper v. U.S. Environmental Protection Agency*, No. CV-16-52-GF-BMM (D. Mont.).

¹⁵ October 31, 2017 Letter from Darcy O'Connor, Assistant Regional Administrator Office of Water Protection, EPA Region 8, to Tom Livers, Director, MDEQ.

¹⁶ *Upper Missouri Waterkeeper v. U.S. Environmental Protection Agency*, No. CV-16-52-GF-BMM (D. Mont.).

¹⁷ *Id.*

¹⁸ *Upper Missouri Waterkeeper v. U.S. Environmental Protection Agency*, 377 F. Supp.3d. 1156 (D. Mont. 2019); July 16, 2019 Order on Remedy; September 20, 2019 Final Order; and December 20, 2019 Order on Motion to Alter or Amend the Judgment.

¹⁹ *Upper Missouri Waterkeeper v. U.S. Environmental Protection Agency*, 377 F. Supp.3d. 1156 (D. Mont. 2019); July 16, 2019 Order on Remedy; September 20, 2019 Final Order; and December 20, 2019 Order on Motion to Alter or Amend the Judgment.

²⁰ *Upper Missouri Waterkeeper v. U.S. Environmental Protection Agency*, 15 F.4th 966 (9th Cir. 2021).

²¹ February 24, 2020 Letter from Gregory Sopkin, Regional Administrator, EPA Region 8 to Shaun McGrath, MDEQ Director.

²² *Id.*

²³ *Id.* at pages 10-11.

²⁴ *Id.*

²⁵ May 1, 2020 email from Myla Kelly, MDEQ Water Quality Standards and Modeling Manager, to the Montana nutrient workgroup regarding the nutrient workgroup update and meeting.

²⁶ *Upper Missouri Waterkeeper v. U.S. Environmental Protection Agency*, No. 4:20-cv-000027-BMM (D. Mont.).

²⁷ *Id.*

In summary judgment briefing filed in the challenge to EPA's 2020 approval of Montana's non-severability provisions, EPA addressed the effect of dissolving the numeric nutrient criteria and reverting to the general narrative criterion:

- “Further, Waterkeeper is premature in concluding that Montana’s use of the narrative criteria would not result in progress toward water quality that meets designated uses. Where a discharge causes or has the reasonable potential to cause, or contribute to, an excursion above the criteria, appropriate numeric water quality-based effluent limitations restricting the discharge must be included in NPDES permits issued to municipal water treatment plants and other dischargers. See 40 C.F.R. § 122.44(d)(1)(vi). The establishment of such numeric effluent limitations should be informed by the same science that supports the numeric standards, as well as other factors appropriate under the Act. Narrative nutrient criteria have been cited in cases with approval. See *City of Taunton, Mass. v. EPA*, 895 F.3d 120, 133 (1st Cir. 2018); *Upper Blackstone Water Pollution Abatement Dist. v. EPA*, 690 F.3d 9, 15, 18 (1st Cir. 2012).”²⁸
- “Finally, it would be premature to predict how the State will implement its narrative criteria in the future. Although the State may have faced implementation challenges regarding its narrative criteria prior to adopting Numeric Criteria, the State now has significant information to translate its narrative criteria into numeric effluent limitations. If subsequent information indicates that the State’s narrative criteria are not protective of the designated use, EPA can consider using its authority under 33 U.S.C. § 1313(c)(4)(B) on its own accord or in response to a petition from Waterkeeper to determine whether numeric criteria are necessary at that time.”²⁹
- “Waterkeeper also argues that Montana’s existing narrative nutrient standards will be inadequate, and relies on critiques of Montana’s narrative standards prior to issuance of the Numeric Criteria and the variances. Response at 6. However, EPA cannot reasonably assume Montana’s implementation of its narrative criteria will prove inadequate given that the State has since developed a much more robust understanding of the science of nutrient pollution and is thereby far-better equipped now than in the past to translate and implement the narrative in NPDES permits.”³⁰

Montana stated the following in its summary judgment reply brief regarding EPA’s approval of the non-severability provisions:

- “...Montana’s own recognition, in 2014, that case-by-case implementation of its narrative criterion can be more difficult and generate more controversy, see AR 1203, does not mean beneficial uses cannot be protected through the narrative criteria found at Admin R. Mont. 17.30.637(1)(e). The case-by-case process needed to translate Montana’s narrative criteria is supported by federal and state regulations. See 40 C.F.R. § 122.44(d)(vi); Admin. R. Mont. 17.30.1344. While the process of implementing the narrative criteria may be more difficult and produce some inconsistencies, Waterkeeper’s conclusion that the use of narrative criteria will not protect Montana’s beneficial uses is speculative and premature, and ignores the significant nutrient work the state has conducted. The state’s collection of research and data would fundamentally inform the state’s implementation of its narrative criteria. See AR 1203-04. Any

²⁸ *Upper Missouri Waterkeeper v. U.S. Environmental Protection Agency*, No. 4:20-cv-000027-BMM (D. Mont.), Defendants’ Memorandum in Opposition to Plaintiff’s Motion for Summary Judgment and In Support of Defendants’ Cross-Motion for Summary Judgment at page 32 (July 21, 2020).

²⁹ *Upper Missouri Waterkeeper v. U.S. Environmental Protection Agency*, No. 4:20-cv-000027-BMM (D. Mont.), Defendants’ Reply Memorandum in Support of Defendants’ Cross-Motion for Summary Judgment at page 7 (Sept. 9, 2020).

³⁰ *Id.* at page 15.

case-by-case application of the narrative criteria, conducted through the permitting process, must protect Montana’s beneficial uses. See Admin R. Mont. 17.30.1311(1). Nonetheless, Montana’s future case-by-case implementation of its narrative criteria is not before the Court, and would itself be subject to governing state law, including all permit review procedures and any related judicial review.”³¹

On October 30, 2020, the district court issued an order consolidating the original WQS variance case with the non-severability provision case.^{32 33} The court explicitly disagreed with the position that the non-severability provisions had been triggered and stated that the variance remained in place.³⁴ The court did not resolve the previously filed summary judgment motions filed regarding EPA’s approval of the non-severability provisions.³⁵

Under the district court’s order, Montana’s variance approved by EPA on October 31, 2017, and the state’s numeric nutrient criteria approved by EPA on February 26, 2015, remain in effect for CWA purposes.

On October 6, 2021, the U.S. Court of Appeals for the Ninth Circuit issued an opinion upholding EPA’s approval of Montana’s 2017 water quality standards variance.³⁶

On April 4, 2022, the district court issued an order granting Waterkeeper’s Motion for Partial Dismissal Without Prejudice for claims in the non-severability provision portion of the litigation.³⁷

Montana 2021 Nutrient WQS Legislation

On April 30, 2021, Montana Governor Gianforte signed state legislation (SB 358) regarding the state’s nutrient numeric criteria, variance, and non-severability provisions.³⁸ The legislation directed the Montana Department of Environmental Quality (MDEQ) to:

- Repeal the EPA-approved numeric nutrient criteria, nutrient variance rules, and non-severability provisions;
- Adopt rules to implement Montana’s general narrative criteria³⁹ to address nutrients through an adaptive management program (AMP); and

³¹ *Upper Missouri Waterkeeper v. U.S. Environmental Protection Agency*, No. 4:20-cv-000027-BMM (D. Mont.), Reply Memorandum in Support of State of Montana, Department of Environmental Quality’s Cross-Motion for Summary Judgment at pages 3-4.

³² *Upper Missouri Waterkeeper v. U.S. Environmental Protection Agency*, No. CV16-52-GF-BMM, CV-20-27-BMM (D. Mont. Oct. 30, 2020).

³³ EPA and other parties appealed the consolidation order to the U.S. Court of Appeals for the Ninth Circuit. The appeals are currently being held under abeyance by the Ninth Circuit until resolution of the variance portion of the litigation. *Upper Missouri Waterkeeper v. EPA*, No. 21-35000 (9th Cir.).

³⁴ *Id.*

³⁵ *Id.*

³⁶ *Upper Missouri Waterkeeper v. U.S. Environmental Protection Agency*, 15 F.4th 966 (9th Cir. 2021).

³⁷ *Upper Missouri Waterkeeper v. U.S. Environmental Protection Agency*, No. CV16-52-GF-BMM, CV-20-27-BMM (D. Mont. April 4, 2022).

³⁸ The legislation also included a new categorical exemption from Tier 2 nondegradation review for proposed activities that discharge phosphorus or nitrogen. Montana uses the term nondegradation rather than antidegradation.

³⁹ ARM 17.30.637 GENERAL PROHIBITIONS (1) State surface waters must be free from substances attributable to municipal, industrial, agricultural practices or other discharges that will: (d) create concentrations or combinations of materials which are toxic or harmful to human, animal, plant, or aquatic life; and (e) create conditions which produce undesirable aquatic life.

- Permit nutrient discharges, prior to adoption of final rules, “in a manner consistent with” Montana’s general narrative provisions and legislative intent.

Specifically, SB 358 Section 2(1) addresses permitting as follows:

***Section 2. Transition for nutrient standards -- department.** (1) Until final rules are adopted pursuant to [section 1], the department shall administer the discharge permitting program under 75-5-402 in a manner consistent with ARM 17.30.637 [general narrative standard] and the intent of [this act]. (2) Any nutrient standards variances currently authorized and effective are hereby authorized and effective under 75-5-320 until otherwise amended or repealed.*

On May 24, 2021, Waterkeeper sent EPA a petition requesting the agency perform its alleged mandatory duty to review SB 358 as new or revised WQS and to take action under CWA section 303(c).⁴⁰

In a June 6, 2021, email, Amy Steinmetz, MDEQ Water Quality Division Administrator, clarified Montana’s interpretation of SB 358 Section 2(1): “The legislation directs DEQ to use the narrative standard during the transition to the adaptive management rules. Unless we disregard the plain language of the transition section, the NNC are not to be used to establish permit limits.”⁴¹

EPA provided an interim response to the Petition from Waterkeeper on July 20, 2021, indicating that EPA was in the process of reviewing the petition and considering the issues raised by Waterkeeper.⁴²

On August 10, 2021, EPA communicated to MDEQ that EPA expects an adequate level of assurance that MDEQ can identify protective levels of both TN and TP for implementation in CWA programs.⁴³ In an August 18, 2021, letter to MDEQ, EPA reiterated these expectations.⁴⁴

As discussed above, the EPA-approved NNC remain applicable for CWA purposes including NPDES permitting.

IV. EPA Review of Montana’s 2020-2022 NPDES Permitting re: Nutrients

Since EPA’s approval of Montana’s NNC and associated WQS variances in 2015, EPA has reviewed NPDES permits implementing those criteria. Between 2015-2020, permits implementing the NNC and associated WQS variances detailed the state’s rationale for concluding whether a discharge had reasonable potential to cause or contribute to an exceedance of the NNC. In May 2020,⁴⁵ MDEQ concluded that the NNC were no longer in effect due to the state’s view that the non-severability clause had been triggered. Since that time, MDEQ has generally not implemented the NNC as the applicable WQS. Following the district court’s October 2020 order the state public noticed numerous permits in

⁴⁰ May 24, 2021 Petition for Rulemaking on Water Quality Standards in the State of Montana from Guy Alsentzer, Executive Director, Upper Missouri Waterkeeper to Michael Regan, Administrator, U.S. Environmental Protection Agency.

⁴¹ June 6, 2021 Email from Amy Steinmetz, MDEQ Water Quality Division Administrator, to Bert Garcia, Acting Director Water Division, EPA Region 8.

⁴² July 20, 2021 Response by Sara Hisel-McCoy, Director, Standards and Health Protection Division, to Petition for Rulemaking on Water Quality Standards in the State of Montana from Guy Alsentzer. AX-21-000-4056

⁴³ August 10, 2021 Email from Bert Garcia, Acting Director Water Division, EPA Region 8 to Amy Steinmetz, MDEQ Water Quality Division Administrator.

⁴⁴ August 18, 2021 Letter from Andrew Todd, Chief Water Quality Section, EPA Region 8 to Galen Steffens, Water Quality Bureau Chief, MDEQ.

⁴⁵ May 1, 2020 email from Myla Kelly, MDEQ Water Quality Standards and Modeling Manager, to the Montana nutrient workgroup regarding the nutrient workgroup update and meeting.

which it identified TN or TP as a pollutant of concern, but for which the state did not conduct an RP analysis using the NNC or include effluent limits for TN or TP based on the NNC. EPA provided written and verbal comments notifying MDEQ that the NNC were still in effect for CWA purposes and that the state was required to utilize the NNC as the basis for WQBELs in relevant permits.⁴⁶

Because the state was implementing only the narrative criteria (not the NNC) in its permits, EPA also evaluated whether MDEQ adequately implemented the narrative criteria consistent with the requirements of 40 C.F.R. § 122.44(d). During the development of its numeric nutrient criteria, MDEQ developed a significant body of nutrient research and data. In the litigation over EPA's approval of the non-severability provisions, the state expressly stated in a 2020 brief that its collection of research and data would fundamentally inform the state's implementation of its narrative criteria if the numeric criteria were to dissolve. In the same litigation, EPA acknowledged that the state had significant information to translate its narrative criteria into numeric effluent limitations and EPA could not then, in 2020, assume that Montana's implementation of its narrative criteria would prove inadequate. In light of these facts, EPA reviewed 19 permits MDEQ developed between 2020 to 2022 for facilities that have nutrients in their effluent and that discharge to waters to which the EPA-approved numeric nutrient criteria apply. EPA considered whether MDEQ relied on the available collection of nutrient research and data to inform its implementation of its narrative criteria in these permits. EPA's review focused on the adequacy of the state's reasonable potential analysis under 40 C.F.R. § 122.44(d)(1)(ii) to determine the need for WQBELs, and the state's establishment of WQBELs based on the narrative WQS pursuant to 40 C.F.R. § 122.44(d)(1)(vi).

40 C.F.R. § 122.44(d)(1)(ii) requires that when determining whether a discharge has the reasonable potential to cause or contribute to an in-stream excursion above a narrative or numeric criteria, states must account for factors such as existing point and nonpoint source pollution controls, variability of the pollutant in the effluent, sensitivity of the species to toxicity testing, and dilution of the effluent in their analysis. EPA's permitting technical support document (TSD) provides additional guidance to states and tribes on how they should use effluent data to determine whether a facility has reasonable potential to cause or contribute to an excursion of a narrative criteria.⁴⁷

40 C.F.R. § 122.44(d)(1)(vi) requires the permitting authority to establish effluent limits when a specific chemical in a discharge has reasonable potential to cause or contribute to an exceedance of a narrative criterion. Such WQBELs can be developed "using a calculated numeric water quality criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and will fully protect the designated use." 40 C.F.R. § 122.44(d)(1)(vi)(A).

Summary of EPA's Review

Between 2020 and 2022, EPA reviewed 19 proposed or issued NPDES permits that have nutrients in their effluent and discharge to waters to which the EPA-approved NNC apply (e.g., wadeable streams). In its review of the permits for these facilities, EPA found that MDEQ did not take a consistent approach in developing these permits and rarely used its available collection of nutrient research and data to inform its permitting decisions. For one permit, MDEQ public noticed the permit without having conducted a reasonable potential analysis and issued the final permit with a reasonable potential analysis provided by EPA. For some permits, MDEQ conducted a reasonable potential analysis that only accounted for the

⁴⁶ EPA Comments on City of Havre WWTP draft permit (January 14, 2021), EPA Comments on Hinsdale Water and Sewer District WWTF draft permit (January 14, 2021), EPA Comments on Town of Wibaux WWTF draft permit (January 14, 2021), EPA Comments on Sidney Sugars Inc. draft permit (January 19, 2021), EPA Comments on City of Choteau WRRF (February 15, 2021), EPA Comments on Town of Jordan WWTF (May 4, 2021).

⁴⁷ EPA. Technical Support Document for Water-Quality based Toxics-controls. March 1991. Chapter 3.

dilution factor outlined in 40 C.F.R. § 122.44(d)(1)(ii). For other permits, MDEQ offered statements about TMDLs or facility improvements without explaining how they related to a reasonable potential analysis under the § 122.44(d)(1)(ii) factors.

In those instances, in which MDEQ found that a facility's discharge had reasonable potential to contribute to an exceedance of the narrative criteria, it consistently chose to establish effluent limits based on the facility's current performance rather than establish effluent limits that are protective of the designated uses using one or more of the options outlined in 40 C.F.R. § 122.44(d)(1)(vi). Based on this review, EPA concluded that while in several instances MDEQ reached an appropriate permitting result, it has not consistently conducted reasonable potential analyses based on an interpretation of the narrative criteria for nutrient discharges to waters in a manner consistent with EPA regulations and has not established permit limits consistent with EPA regulations that fully protect designated uses. A full discussion of EPA's review follows, with additional detail provided in Table 1.

Discussion of EPA's Review

EPA's review of the 19 permits issued between 2020 and 2022 identified the following categories of permits and permitting decisions.

Four facilities that do not discharge during the summer growing season:

Of the 19 permits EPA reviewed, MDEQ issued 4 to facilities that either naturally do not discharge during the summer growing season (Yellowstone Mountain Club) or can be operated to avoid discharging during the summer growing season (Colstrip, Grass Range, and Wibaux). Because the EPA-approved NNC for these waters only apply during the summer growing season, MDEQ concluded that narrative criteria with respect to nutrients similarly only apply during the summer growing season. Consequently, MDEQ concluded that because the four facilities do not discharge when the narrative criteria apply, they cannot cause an exceedance of the criteria. EPA agrees with this conclusion.

Eight permits that demonstrate no reasonable potential for nutrients:

Of the remaining 15 facilities that discharge during the summer growing season and therefore must fully protect designated uses and attain the narrative criteria for nutrients, MDEQ issued permits for eight (Red Lodge, Glendive, Chinook, Forsyth, Hamilton, Havre, Hinsdale, Lolo) in which it concluded the facilities' discharges did not have the reasonable potential to cause or contribute to an exceedance of the narrative criteria. For two of these facilities (Red Lodge and Glendive), MDEQ conducted reasonable potential analyses that considered both the state's narrative criteria and the NNC and determined there was no reasonable potential for the discharges to cause or contribute to an exceedance of either of the applicable water quality standards. EPA agrees with MDEQ's reasonable potential determinations for these two facilities.

For the other six facilities, MDEQ relied on available dilution in the receiving water as the primary basis for concluding that the discharges did not have reasonable potential. Given the generally cursory nature of MDEQ's dilution analyses for each of these facilities (e.g., did not present dilution calculations or cite to relevant nutrient research to compare to diluted instream levels associated with the effluent discharge), EPA completed its own reasonable potential analysis to independently confirm, using the available collection of nutrient research and data, including the NNC concentrations, that the discharge did not have reasonable potential to cause or contribute to an exceedance of the narrative criteria. Based on its own analysis, EPA agrees with MDEQ's reasonable potential determination for these six facilities.

Two permits with incomplete or flawed reasonable potential analyses:

Of the remaining 7 facilities, MDEQ proposed or issued permits for two facilities (Choteau and Manhattan), for which the reasonable potential analysis was incomplete or flawed. For Choteau, MDEQ did not consider the collection of nutrient research and data and instead cited to the presence of nonpoint source contributions of nutrients identified in a 2003 TMDL and an upgrade of the facility in its reasonable potential analysis. Based on this limited and outdated information, MDEQ concluded that Choteau does not have reasonable potential to cause or contribute to exceedances of the applicable narrative criteria. For Manhattan,⁴⁸ MDEQ considered recently proposed (but not yet implemented) upgrades to the facility and the lack of data for the receiving water to conclude the facility did not have reasonable potential to cause or contribute to an exceedance of the narrative criteria. For both facilities, MDEQ concluded that permit limits for TN or TP were not needed and required nutrient monitoring only. Based on its review of these two permits, EPA concludes that MDEQ did not adequately demonstrate that the facilities do not have reasonable potential to cause or contribute to an exceedance of the narrative criteria.

Three permits with effluent limits that do not protect the designated uses:

Of the remaining 5 facilities, MDEQ proposed or issued permits for three facilities (Jordan, Sidney Sugars, and Cut Bank), in which it determined that discharges from the facilities had the reasonable potential to cause or contribute to an exceedance of the narrative criteria, but for which it did not establish effluent limits to protect the designated use. For these three facilities, MDEQ capped the facilities at their current load instead of using the available collection of nutrient research and data and establishing effluent limits using one or more of the approaches required under 40 C.F.R. § 122.44(d)(1)(vi). These effluent limits allow the facility to discharge TN and TP at the same concentrations that MDEQ has already determined cause or contribute to an exceedance of the narrative criteria. Therefore, EPA concludes that the effluent limits for TN and TP for these three facilities do not fully protect the designated uses.

One permit with incomplete or flawed reasonable potential analyses and effluent limits that do not protect the designated use:

Of the remaining 2 facilities, MDEQ issued a draft permit for one facility (Helena) in which it did not conduct a reasonable potential analysis but adopted permit limits for TN and TP from the previous permit for the facility issued in 2012. The previous nutrient permit limits were drawn from a phased TMDL and were not based on the attainment of the narrative criteria or protection of the designated uses.⁴⁹ The TMDL itself indicates that the next phase of the TMDL would occur in 2014 with revisions to include waste load allocations and associated effluent limits for TN and TP based on numeric nutrient criteria. Because MDEQ has not used the available collection of nutrient research and data and developed effluent limits using one or more of the approaches under 40 C.F.R. § 122.44(d)(1)(vi), and instead adopted effluent limits based on an outdated TMDL that does not interpret the state's narrative criteria, EPA concludes that the effluent limits for this facility do not fully protect the designated uses.

⁴⁸ EPA notes that when it approved the State of Montana's general variance in 2017, Manhattan was identified as having reasonable potential to exceed the NNC and was required to meet the NNC at the end-of-pipe. Additionally, when MDEQ first proposed the Manhattan renewal permit in April 2021, MDEQ determined that Manhattan had reasonable potential to exceed the NNC.

⁴⁹ Framework Water Quality Restoration Plan and Total Maximum Daily Loads (TMDLs) for Lake Helena Watershed Planning Area: Volume II – Final Report. Prepared for MDEQ by U.S. EPA. August 31, 2006. Available at: <https://deq.mt.gov/files/water/wqpb/CWAIC/TMDL/M09-TMDL-02a.pdf>.

One permit with no reasonable potential for nutrients and effluent limits that do not protect the designated use:

MDEQ issued a permit for the remaining facility (Twin Bridges) in which it concluded that the facility had no reasonable potential to cause or contribute to an exceedance of the narrative criteria but for which it nonetheless included permit limits. Twin Bridges is another facility that infrequently discharges and can be operated to avoid discharging during the summer growing season when the narrative criteria apply. For this reason, MDEQ concluded that the facility would not cause or contribute to an exceedance of the narrative criteria. Despite having made this determination, MDEQ nonetheless established TN and TP limits based on past facility performance from 2011 and cited the fact that the facility might need to discharge. As a result, Twin Bridges is authorized to discharge concentrations of TN and TP for which MDEQ has not considered the available collection of nutrient research and data, has not assessed reasonable potential under 40 C.F.R. § 122.44(d)(1)(ii) for these limits, and has not developed effluent limits using one of the methods in 40 C.F.R. § 122.44(d)(1)(vi). EPA therefore concludes that the effluent limits for this facility do not fully protect the designated uses.

Conclusion

After a careful review of 19 proposed or issued NPDES permits between 2020 and 2022, EPA found that MDEQ has not followed a consistent approach to assessing whether water quality-based effluent limitations are required or establishing such limitations in a manner required by EPA regulations, including ensuring that permits fully protect designated uses. MDEQ has previously represented that its collection of research and data would fundamentally inform the state's implementation of its narrative criteria in the absence of numeric criteria. The record before EPA demonstrates the state has rarely used the available nutrient research and data to inform its permitting decisions. In determining whether water quality-based effluent limitations are required, MDEQ's approach to reasonable potential analyses has been inconsistent, in several cases relying on a single factor analysis without supporting information, and in other cases pointing to matters unrelated to the factors set forth in regulation. Finally, for the few permits where MDEQ found a reasonable potential that a discharge would cause or contribute to an exceedance of the narrative criteria, those permits included limitations that do not fully protect the designated uses. Thus, the record before EPA regarding the state's implementation of its narrative criteria in its NPDES permits for nutrient dischargers is further evidence that EPA lacks assurances that designated uses would be protected by the state's revision of its water quality standards, as required by 40 C.F.R. § 131.11(a)(1).

TABLE 1 – Additional Details from EPA’s Review of MDEQ permits

Facility	Original MDEQ Public Notice Date	Description of Permit Details including RP Analysis in Permit Fact Sheet	EPA Review	Final Permit Status
Chinook WWTP (MT0020125)	10/19/2020	<p>“Montana has a narrative water quality standard found at ARM 17.30.637(1)(e). The 2012-permit included average monthly load limits effective June 1 through September 30. These load limits will be retained in this permit. DEQ find that a discharge of TN and TP at these levels will not cause or contribute to exceedance of the narrative water quality standard. Chinook’s relatively small volume discharge to the Milk River at these levels will not create that produced undesirable aquatic life.” (Permit FS, Page 12)</p>	<p>MDEQ did not use its collection of nutrient research and data to interpret the narrative criteria in its reasonable potential analysis. Instead, the Permit Fact Sheet (FS) retains the 2012 permit limits, stating that the limits do not cause or contribute to an exceedance of the narrative standard. The FS also cites to the relatively small volume of the discharge compared to the receiving water.</p> <p>EPA’s own analysis, based on the NNC, concludes that the discharge does not have reasonable potential to cause or contribute to exceedance of the applicable water quality standard.</p>	<p>Issued 11/25/2020</p>
Choteau WWTP (MT0020052)	1/25/2021	<p>“The 2003 Teton River Water Quality Management Plan and TMDL required reductions in nonpoint source pollution instead of Choteau. As in many watersheds with large agricultural sources of nutrients, focusing on the nonpoint sources are required to create assimilative capacity before limiting point sources like Choteau. However, Choteau has upgraded from a lagoon to a mechanical plant anyway and has worked to reduce nutrient loads since the previous permit.” (FS, Page 10)</p>	<p>MDEQ did not use its collection of nutrient research and data to interpret the narrative criteria in its reasonable potential analysis. Instead, the FS cites to a 2003 TMDL and that the facility upgraded to a mechanical plant. Based on this information, the state determined that the facility has no RP for nutrients and, therefore, does not require permit limits for nutrient-related pollutants.</p> <p>EPA concludes that the state has not a) provided sufficient information or analysis to demonstrate that the permit included limits for all pollutants that have reasonable potential to cause or contribute to an exceedance of the narrative criteria; and therefore, b) whether the state is implementing the narrative criteria in a</p>	<p>Issued 6/30/2021</p>

Facility	Original MDEQ Public Notice Date	Description of Permit Details including RP Analysis in Permit Fact Sheet	EPA Review	Final Permit Status
			manner that protects designated uses in its permitting decision.	
Colstrip WWTF (MT0022373)	7/26/2021	<p>“Since the Colstrip STP does not discharge to East Fork Armells Creek during the growing season months when nutrients (TN and TP) would most likely create conditions which produce undesirable aquatic life, or when EPA might apply federal TN and TP numeric standards, there is no RP to exceed the Montana or federal standards. To ensure compliance with the nutrient narrative standard, discharge to East Fork Armells Creek will continue to be limited to November through March.” (FS, Page 9)</p>	<p>The RP analysis in the FS is based on the fact that the facility does not discharge during summer months.</p> <p>Because the discharge does not occur during the summer months when the NNC would apply, EPA concludes the discharge does not have the reasonable potential to cause or contribute to exceedance of the applicable water quality standard.</p>	Issued 9/9/2021
Cutbank WWTP (MT0020141)	8/9/2021	<p>“DEQ protects waterbodies from undesirable aquatic life, such as algae, that are stimulated by nutrients. Based on this, the 2012-issued permit included average monthly and average weekly load limits, and average monthly and average weekly concentration limits. Due to the mechanical plant upgrade in 2018, there is a significant nutrient load reduction.</p> <p>Even after upgrading to a mechanical wastewater treatment plant, the lack of ambient streamflow in Old Maids Coulee for parts of the year means Cut Bank WWTP’s effluent is the only flow in Old Maids Coulee. Therefore, TN and TP need to be managed to prevent the growth of undesirable aquatic life. Because there is reasonable potential for TN and TP to exceed the narrative water quality standard if Cut Bank WWTP does not manage nutrients, DEQ recalculated the cap at current average monthly nutrient load limits during the growing season, see Appendix A. Because the effluent limits are expressed in terms of load (lb/day), it is redundant to include concentration limits. DEQ determined that a discharge of TN and TP at these levels will not cause or contribute to exceedance of the narrative water quality standard.” (FS, Page 13)</p>	<p>MDEQ did not use its collection of nutrient research and data to interpret the narrative criteria in its reasonable potential analysis. Instead, the state determined that the facility has RP for TN and TP to exceed the narrative criteria based on low flows in the receiving water and existing pollutant controls. Rather than identifying TN or TP levels to interpret the narrative criteria that would ensure protection of designated uses, the state established permit limits based on capping the facility at the current load. This approach allows discharges of TN and TP at concentrations that MDEQ has determined cause or contribute to an exceedance of the narrative water quality standard.</p> <p>Thus, EPA’s review demonstrates that MDEQ is not implementing its narrative criteria in a manner that protects designated uses.</p>	Withdrawn

Facility	Original MDEQ Public Notice Date	Description of Permit Details including RP Analysis in Permit Fact Sheet	EPA Review	Final Permit Status
Forsyth WWTP (MT0021288)	10/19/2020	<p>“Forsyth discharges a small volume in comparison to the Yellowstone River. Forsyth in cooperation with DEQ has optimized the facility performance by implementing a TN and TP removal plan and is reducing overall loads of TN and TP discharged. DEQ finds Forsyth does not have reasonable potential to cause or contribute to an exceedance of the narrative water quality standard found at 17.30.637(1)(e) which prohibits nuisance aquatic life in state surface waters.” (FS, Page 7)</p>	<p>MDEQ did not use its collection of nutrient research and data to interpret the narrative criteria in its reasonable potential analysis. Instead, MDEQ’s FS references potential future facility optimization for TN and TP and states that the facility discharges a small volume compared to the Yellowstone River.</p> <p>EPA’s own analysis, based on the NNC, concludes that the discharge will not cause or contribute to exceedance of the narrative water quality standard. This segment of the Yellowstone River is not impaired and there is sufficient assimilative capacity.</p>	Issued 11/30/2020
Glendive WWTP (MT0021628)	3/7/2022	<p>“The dilution ratio during the summer months in the Yellowstone River by Glendive is 1,230. Since the Glendive discharge is so small compared to the flow of the Yellowstone River during the summer, DEQ finds there is no RP for Glendive to cause or contribute to nuisance aquatic life. No effluent limits for TN and TP will be applied to the discharge from the Glendive WRRP during this renewal cycle. However, monitoring requirements for TN and TP will be continued in the renewed permit.</p> <p>Although Montana operates under a narrative standard, the EPA may consider federal standards consisting of a TN of 0.815 mg/L and TP of 0.095 mg/L applicable to the Yellowstone River by Glendive. In case that occurs, DEQ evaluated the Glendive WRRF for RP under the federal TN and TP values...</p> <p>Therefore, RP does not exist to exceed the federal numeric water quality standards for TN [and TP] in the Yellowstone River.” (FS, Page 11)</p>	<p>The state’s RP analysis is based both on the narrative criteria and the NNC. Based on these two analyses, MDEQ concludes that the discharge will not cause or contribute to exceedance of the narrative criteria.</p> <p>EPA concurs with the state’s conclusion the facility does not have RP.</p>	Issued 4/29/2022

Facility	Original MDEQ Public Notice Date	Description of Permit Details including RP Analysis in Permit Fact Sheet	EPA Review	Final Permit Status
Grass Range WWTP (MT0030309)	5/17/2021	MDEQ FS: "Grass Range WWTF is located in the Northwestern Great Plains Ecoregion, which has seasonal nutrient standards from July 1st to September 30th. The facility is an infrequent discharger, capable of avoiding discharge events in the summer months when nutrient standards apply. Therefore, Grass Range WWTF will be prohibited from discharging from July 1st to September 30th, annually." (FS, Page 11)	<p>MDEQ's RP determination is based on the fact that the facility does not discharge during summer months; therefore, the facility does not have RP.</p> <p>Because the discharge is not occurring during the summer months when the NNC would apply, EPA concludes the discharge does not have RP to cause or contribute to exceedance the applicable water quality standard.</p>	Issued 7/14/2021
Hamilton WWTP (MT0020028)	6/28/2021	"Montana regulations require state waters be free from substances attributable to municipal discharges that will create conditions which produce undesirable aquatic life. The 2011-permit developed limits of 94 lb/day for TN and 105 lb/day for TP. These load limits will be retained due to anti-backsliding." (FS, Page 13)	<p>MDEQ did not use its collection of nutrient research and data to interpret the narrative criteria in its reasonable potential analysis. The state did not conduct an RP analysis, but instead applied previous permit limits that were not based on the NNC. The state provided no analysis as to whether the existing permit limits will achieve the narrative criteria.</p> <p>EPA submitted written comments to MDEQ documenting that EPA's RP analysis, based on the NNC, concludes that the discharge will not cause or contribute to exceedance of the applicable water quality standard.</p>	Issued 10/18/2021

Facility	Original MDEQ Public Notice Date	Description of Permit Details including RP Analysis in Permit Fact Sheet	EPA Review	Final Permit Status
Havre WWTP (MT0022535)	11/16/2020	<p>“Montana regulations require state waters be free from substances attributable to municipal discharges that will create conditions which produce undesirable aquatic life. Havre invested in significant upgrades, committed to optimization of the wastewater treatment thereby significantly reducing nutrient loads to the Milk River. Below is a comparison of the average summer monthly concentrations and loads before and after significant upgrades were completed in 2016... Recent litigation on nutrients may result in numeric nutrient criteria on the Milk River, but also grant a mixing zone with the 14Q5 flow of the river, which is larger than the 7Q10 flow. Under that scenario, the Milk River sufficiently dilutes Havre’s improving discharge to prevent an impairment of the Milk River, but there is a need for instream nutrient monitoring to confirm the impact. Based on currently available information, DEQ finds Havre’s effluent does not have reasonable potential to cause or contribute to undesirable aquatic life in the Milk River. Seasonal (June 1 to September 30) effluent and upstream monthly monitoring will be required in the renewed permit.” (FS, Page 11)</p>	<p>MDEQ did not use its collection of nutrient research and data to interpret the narrative criteria in its reasonable potential analysis. Instead, the state’s FS references effluent concentrations from before and after the plant was upgraded and relies on that information, combined with the potential for dilution, to determine that the facility does not have RP.</p> <p>EPA’s own analysis, based on the NNC, concludes that the discharge will not cause or contribute to exceedance of the applicable water quality standard.</p>	Issued 6/17/2021
Helena WWTP (MT0022641)	7/12/2021	<p>“Previous effluent load limits for total nitrogen (TN) and total phosphorus (TP) were developed in the 2012-issued permit using a phased approach from the EPA-developed and approved TMDL as ‘interim adaptive management waste load allocations’... To comply with general prohibitions and narrative standards requiring state waters to be free from substances which will create conditions that produce undesirable aquatic life, such as algae, the average monthly limits will be continued in this permit renewal. Monthly monitoring for N+N and total Kjeldahl nitrogen will be continued as components of total nitrogen.” (FS, Page 13)</p>	<p>MDEQ did not use its collection of nutrient research and data to interpret the narrative criteria in its reasonable potential analysis. The state did not conduct an RP analysis, but instead applied previous permit limits from a phased TMDL for Lake Helena that reflected plant optimization. These limits were to be replaced in 2014 with water quality-based effluent limits derived from numeric nutrient criteria that protect the designated use.</p> <p>EPA’s review concluded that MDEQ’s RP analysis is poorly justified and the permit provides no analysis as to whether the</p>	Withdrawn

Facility	Original MDEQ Public Notice Date	Description of Permit Details including RP Analysis in Permit Fact Sheet	EPA Review	Final Permit Status
			existing permit limits will achieve the narrative criteria. Thus, the state has not provided sufficient information or analysis to determine whether it is implementing water quality standards in a manner that protects the designated use of the receiving water.	
Hinsdale WWTP (MT0020656)	12/14/2020	<p>“Montana regulations require state waters be free from substances attributable to municipal discharges that will create conditions which produce undesirable aquatic life. The Milk River is not listed as impaired for nutrients and ratio of 7Q10 to facility design flow 490:1. DEQ finds no evidence that Hinsdale’s discharge is producing undesirable aquatic life. Seasonal (July 1 to September 30) effluent and upstream monthly monitoring will be required in the renewed permit.” (FS, Page 12-13)</p>	<p>MDEQ did not use its collection of nutrient research and data to interpret the narrative criteria in its reasonable potential analysis. Instead, MDEQ cites dilution in the receiving waterbody as the basis for concluding that the facility does not have RP.</p> <p>EPA’s own analysis, based on the NNC, concludes that the discharge will not cause or contribute to exceedance of the applicable water quality standard.</p>	Issued 6/8/2021
Jordan WWTP (MT0021385)	3/22/2021	<p>“Jordan has had near-continuous permit violations following the 2008-facility upgrade.” (FS, Page 3).</p> <p>“On July 15, 2019, H&S Environmental, LLC conducted a wastewater treatment optimization study for Jordan. Representatives from DEQ and Jordan attended. The evaluation determined that...Ryan’s Processing, a local meat processing plant, is overloading the system with untreated influent.” (FS, Page 3)</p> <p>“State surface waters must be free from substances attributable to municipal, industrial, agricultural practices or other discharges that will create conditions which produce undesirable aquatic life. This includes TN and TP from Jordan. Because Jordan has RP to violate the narrative standard above, the average monthly WQBEL is determined and then converted to load.” (FS, Page 10)</p>	<p>MDEQ did not use its collection of nutrient research and data to interpret the narrative criteria in its reasonable potential analysis. Instead, the state’s FS references frequent permit violations and nutrient overloads to the systems and concludes the facility has RP for TN and TP at the levels currently being discharged because the effluent creates conditions which will produce undesirable aquatic life. However, rather than identifying TN or TP levels to interpret the narrative standard that would ensure protection of designated uses, the state established permit limits based on capping the facility at current performance which reflects nutrient overloading and permit violations.</p>	Issued 6/9/2021

Facility	Original MDEQ Public Notice Date	Description of Permit Details including RP Analysis in Permit Fact Sheet	EPA Review	Final Permit Status
			EPA’s review concluded that this approach allows discharges of TN and TP at concentrations that MDEQ has determined cause or contribute to an exceedance of the narrative water quality standard. Thus, MDEQ is not implementing its narrative criteria in a manner that protects designated uses.	
Lolo WWTP (MT0020168)	11/15/2021	<p>“The Bitterroot River flows into the Clark Fork River just below the Lolo WWTP. Numeric water quality standards for TN and TP have been adopted for the mainstem Clark Fork River from the confluence with the Blackfoot River to the confluence with the Flathead River. The numeric water quality standards for TN and TP for the Clark Fork River in this reach are 300 µg/L and 39 µg/L, respectively, both effective from June 21 to September 21.</p> <p>Although no numeric water quality standards for TN and TP presently exist for the Bitterroot River, DEQ will determine RP using the Clark Fork River standards because of the close downstream proximity to the Lolo WWTP.” (FS Page 10)</p> <p>RP analysis completed based on Clark Fork River analysis concluded: “Therefore, RP does not exist to exceed the numeric water quality standards for TN in the Bitterroot.” (FS, Page 11)</p>	<p>MDEQ did not use its collection of nutrient research and data to interpret the narrative criteria. Instead, the FS states that there are no NNC for the Bitterroot River and the state’s RP analysis is based on the downstream NNC for the Clark Fork River.</p> <p>EPA’s own RP analysis, based on the NNC for the Bitterroot River (the receiving waterbody), demonstrates that the discharge will not cause or contribute to exceedance of the applicable water quality standard.</p>	Issued 1/31/2022

Facility	Original MDEQ Public Notice Date	Description of Permit Details including RP Analysis in Permit Fact Sheet	EPA Review	Final Permit Status
Manhattan WWTP (MT0021857)	6/28/2021	<p>“DEQ finds Manhattan is reducing nutrient loading by continuing to propose upgrades to the facility. For this renewal DEQ has determined that there is not sufficient information to determine whether there is narrative reasonable potential to cause or contribute to a nutrient problem for the following reasons: 1. the ambient condition for Dita Ditch is not adequately characterized. There is no seasonal ambient flow data, the current nutrient concentrations are not known, and there is no downstream evaluation for nutrient impairment or evidence of nuisance aquatic life. 2. the 2020 PER submitted to DEQ for numerous facility upgrades includes developing the old lagoons into groundwater infiltration basins that may negate the need to discharge to surface water during the summer season.</p> <p>For these reasons, DEQ will require additional monitoring during this permit cycle to provide data for future evaluation, including effluent concentration and load and ambient data for Dita Ditch.” (FS, Page 16)</p>	<p>MDEQ did not use its collection of nutrient research and data to interpret the narrative criteria in its reasonable potential analysis. The state public noticed a draft permit in April 2021 in which it determined that the facility had RP for the NNC based on stream flow and elevated TN and TP concentrations in the discharge. In June 2021, with the same information available, the state re-public noticed a revised draft permit in which it determined that they had insufficient information to determine RP for the narrative criteria for TN and TP. As a result, the state required only monitoring for TN and TP in the revised draft permit. The state did not provide any information or analysis to explain why its interpretation of the narrative criteria would protect designated uses when the discharge concentrations had not changed since the previous draft permit in which the state had demonstrated the facility had RP for the NNC that protected the same designated use.</p> <p>EPA’s review concluded that MDEQ’s RP analysis is poorly justified. Thus, the state has not provided sufficient information or analysis to determine whether it is implementing water quality standards in a manner that protects designated uses.</p>	Withdrawn

Facility	Original MDEQ Public Notice Date	Description of Permit Details including RP Analysis in Permit Fact Sheet	EPA Review	Final Permit Status
Red Lodge WWTP (MT0020478)	2/7/2022	<p>“Since the Red Lodge discharge is so small compared to the flow of Rock Creek during the summer, DEQ finds there is no RP for Red Lodge to cause or contribute to nuisance aquatic life. No effluent limits for TN and TP will be applied to the discharge from the Red Lodge WWTP during this renewal cycle. However, monitoring requirements for TN and TP will be continued in the renewed permit.</p> <p>Although Montana operates under a narrative standard, the EPA may consider federal standards consisting of a TN of 1.3 mg/L and TP of 0.15 mg/L applicable to Rock Creek. In case that occurs, DEQ evaluated Red Lodge for RP under the federal TN and TP values...</p> <p>Therefore, RP does not exist to exceed the federal numeric water quality standards for TN [and TP] in Rock Creek” (FS, Page 11)</p>	<p>The state’s RP analysis is based both on the narrative criteria and the NNC. Based on these two analyses, MDEQ concludes that the discharge will not cause or contribute to exceedance of the narrative criteria.</p> <p>EPA concurs with the state’s conclusion the facility does not have RP.</p>	Issued 3/15/2022
Sidney Sugars (MT0000248)	11/30/2020	<p>“Sidney Sugars effluent cannot contain enough nutrients to cause undesirable aquatic life in the Yellowstone River. There are currently no numeric water quality standards for TN or TP, although there are surface water standards for ammonia and N+N. However, recent litigation may result in a nutrient criterion of 0.815 mg/L TN and 0.095 mg/L TP.” (FS, Page 35)</p> <p>“There is no need for mixing zone dilution for TN or TP as there are no numeric nutrient standards.”(FS, Page 37)</p> <p>“Regardless of ongoing litigation on the status of numeric nutrient criteria versus narrative, the Yellowstone River is impaired for TN and TP and there is no assimilative capacity. DEQ will cap the facility at current performance until new information becomes available. DEQ has determined that TN and TP are best permitted as a seasonal monthly average load (lb/day) from August 1st - October 31st.” Same language for TP (FS, Pages 44-45)</p>	<p>MDEQ did not use its collection of nutrient research and data to interpret the narrative criteria in its reasonable potential analysis. Instead, the state determined that the facility has RP for TN and TP to exceed the narrative criteria based on a percent contribution of the total nutrient load to the Yellowstone River which has no assimilative capacity because this segment of the river is impaired for TN and TP. Rather than identify TN or TP levels based on the underlying science to interpret the narrative standard that would protect designated uses, the state established permit limits based on capping the facility at current performance.</p> <p>EPA’s review concluded that this approach allows discharges of TN and TP at</p>	Issued 8/31/2021

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		<p>“Based on the loads from SSI [Sidney Sugars Inc.] compared to the load in the Yellowstone River, DEQ finds there is reasonable potential for SSI to contribute sufficient total nitrogen and total phosphorus, for causing or contributing to (d) creating concentrations or combinations of materials which are toxic or harmful to human, animal, plant, or aquatic life; and (e) creating conditions which produce undesirable aquatic life. [ARM 17.30.637(1)(d) and (e)].” (RTC, Page 2)</p>	<p>concentrations that MDEQ has determined cause or contribute to an exceedance of the narrative water quality standard. Thus, MDEQ is not implementing its narrative criteria in a manner that protects designated uses.</p>	
Twin Bridges WWTP (MT0028797)	7/27/2020	<p>“Twin Bridges land applies effluent and has not discharged since April 2012 or roughly 8 years. Since the facility does not discharge pollutants during normal operations thereby reducing pollutants at the best available technology or limits of technology, DEQ concludes Twin Bridges does not have reasonable potential to exceed the narrative water quality standard found at ARM 17.30.637(1). However, to maintain optimal performance and predictability for land application and crop nutrient uptake, DEQ maintains previous nutrient limits.” (FS, Page 9)</p> <p>“DEQ acknowledges the MPDES permit authorizes Twin Bridges to discharge even though the facility is designed for total retention and land application of effluent during the summer months. Twin Bridges continues to hold the MPDES in the unlikely event total retention and/or land application is infeasible for short periods of time.” (RTC, Page 2)</p>	<p>MDEQ did not use its collection of nutrient research and data to interpret the narrative criteria in its reasonable potential analysis. Instead, the state assessed RP for the narrative criteria based on a no-discharge scenario. The state concluded that the facility has no RP under these conditions. However, rather than establishing a mandatory no-discharge limit, the state kept prior TN and TP limits, which were based on facility performance from the 2011 timeframe when a discharge last occurred.</p> <p>EPA concludes that the state has not demonstrated that these limits the narrative criteria and are protective of designated uses.</p>	Issued 10/15/2020
Wibaux WWTP (MT0020516)	12/14/2020	<p>“The 2012-permit did not include average effluent limits for Total Nitrogen (TN) or Total Phosphorus (TP), but did require effluent and in-stream monitoring. Montana has a narrative water quality standard found at ARM 17.30.637(1)(e). For the POR, Wibaux did not discharge during summer months. Because of the infrequent discharge from the WWTF (usually once per year in the fall), there is not a significant load of TN or TP from</p>	<p>The state’s RP analysis relies on the fact that Wibaux did not discharge in the summer months. In its comments on the draft permit, EPA recommended MDEQ <u>prohibit</u> discharge from July – September. MDEQ made this change to the final permit. (RTC, Page 2)</p>	Issued 2/22/2021

Facility	Original MDEQ Public Notice Date	Description of Permit Details including RP Analysis in Permit Fact Sheet	EPA Review	Final Permit Status
		Wibaux during the nutrient growing season. DEQ concludes discharge will not produce undesirable aquatic life.” (FS, Page 12)	Because MDEQ modified the final permit to prohibit discharging during the summer months, EPA concludes the discharge does not have RP to cause or contribute to exceedance of the narrative water quality standard.	
Yellowstone Mtn Club WWTP (MT0032051)	4/4/2021	“The discharge of snowmelt from the artificial snow will occur during the spring snowmelt/runoff period. The permit application states that on Eglise Mountain snowmelt generally begins about mid-April and all snow is historically melted by July 1st each year. DEQ Circular 12A includes numeric nutrient criteria for both Total Nitrogen and Total Phosphorus. These numeric water quality standards are applicable July 1st through September 30th annually. Yellowstone Club plans to make and apply snow during the winter months with all snow reported to melted by July 1st each year. DEQ finds the snowmelt will not discharge during the months that the numeric nutrient criteria apply and therefore the snowmelt does not have reasonable potential to cause or contribute to an exceedance of either the TN or TP numeric water quality standard.” (FS, Page 20)	<p>The state’s RP analysis relies on the fact that the Yellowstone Mountain club discharge will not discharge in the summer months.</p> <p>This permit relates to using wastewater discharge for snowmaking during winter months. Because the discharge is not occurring during the summer months when the NNC would apply, EPA concludes the discharge does not have RP to cause or contribute to exceedance of the narrative criteria.</p>	Issued 6/7/2021