
Triennial Review of Wyoming's Surface Water Quality Standards

Initial Scoping

August 2018

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WYOMING

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1.0 SUMMARY

The Wyoming Department of Environmental Quality/Water Quality Division (WDEQ/WQD) is conducting public outreach in anticipation of upcoming revisions to the Water Quality Rules and Regulations, Chapter 1, Wyoming Surface Water Quality Standards (standards). The purpose of this rule making is to satisfy federal Clean Water Act (CWA) triennial review requirements for surface water quality standards, update water quality criteria, and address issues that have been identified by WDEQ/WQD or the public since the previous review. This document describes some of the changes WDEQ/WQD is considering for upcoming revisions. WDEQ/WQD requests that the public review and provide feedback on the topics below as well as provide feedback on any other aspects of Wyoming’s surface water quality standards that should be considered.

2.0 BACKGROUND

Water Quality Rules and Regulations, Chapter 1, Wyoming Surface Water Quality Standards, include designated uses, water quality criteria to protect designated uses, and antidegradation provisions to maintain existing high surface water quality. The standards are intended to implement relevant sections of the Wyoming Environmental Quality Act as well as the CWA and are used to: establish water quality based effluent limits for point source discharges (i.e., permitted discharges); evaluate surface water quality conditions; and establish goals for restoration plans like those described in total maximum daily loads and locally led watershed plans.

Section 303(c) of the CWA provides states, tribes, and territories with primary authority and responsibility to establish water quality standards for waters of the United States within their respective jurisdictions. The CWA requires states to review their surface water quality standards at least every three years, at which time the state can determine whether changes are warranted.

Chapter 1 was last revised in April 2018; the revision added Section 37 to Chapter 1 that created an authorizing provision for discharger specific variances. Prior to the April 2018 revision, Chapter 1 was revised in September 2013 as part of a triennial review. This document describes some of the potential changes WDEQ/WQD is considering for upcoming revisions. WDEQ/WQD requests that the public review and provide feedback on the topics below as well as provide feedback on any other aspects of Wyoming's surface water quality standards that should be considered. Comments received will help determine the scope of proposed revisions.

WDEQ/WQD will respond to the comments received during the scoping process and then draft proposed changes to Chapter 1 along with a statement of reasons. WDEQ/WQD is considering making the proposed changes available to the public for comment prior to meeting with the [Water and Waste Advisory Board](#) (board). WDEQ/WQD will develop a revised draft of proposed changes and statement of reasons for public comment and consideration by the board. Once the board recommends advancing the proposed rules, the [Environmental Quality Council](#) (council) will consider the proposed changes, along with any additional public comments. Once adopted by the council, the Governor may approve the revisions or direct modifications. Once signed by the Governor, the rules are filed with [the Secretary of State](#) and become effective. Once filed with the Secretary of State, revisions to Wyoming's surface water quality standards are submitted to the United States Environmental Protection Agency (USEPA pursuant to the Clean Water Act.

3.0 POTENTIAL REVISIONS UNDER CONSIDERATION

3.1 Section 2(a), Definitions from the Environmental Quality Act.

In response to Governor Matthew Mead's April 2013 rule streamlining initiative, WDEQ has been eliminating definitions from the agency's rules and regulations that duplicate those in the Wyoming Statutes. This helps to reduce redundancies as well as avoid potential inconsistencies between the rules and statutes. As such, WDEQ is considering removing the terms and definitions in Section 2(a) of Chapter 1 or retaining the terms and referencing the appropriate section of the Environmental Quality Act.

3.2 Section 2(b), Recreation Definitions.

During development of Wyoming's statewide use attainability analysis for recreation designated uses, confusion arose regarding Wyoming's definition of primary contact recreation and secondary contact recreation and the types of activities that recreation designated uses are intended to protect, particularly related to ingestion of surface water. The current definition of primary contact recreation "means any recreational or other surface water use that could be expected to result in ingestion of the water or immersion (full body contact)" and the current definition of secondary contact recreation "means any recreational or other surface water use in which contact with the water is either incidental or accidental and that would not be expected to result in ingestion of the water or immersion." Wyoming's recreational uses and water quality criteria to protect recreational uses are not protective of drinking untreated surface water or other uses unrelated to recreation.

In the USEPA's September 2017 action letter on the UAA, USEPA noted "the EPA recommends the state revise its definition of [primary contact recreation] PCR to clarify that this use protects incidental

ingestion during PCR activities, not drinking or similar uses.” WDEQ/WQD is therefore considering revising the definitions of primary contact recreation and secondary contact recreation to more clearly define the uses.

3.3 Sections 3 and 4, Water Uses and Surface Water Classes and Uses.

Currently, Wyoming’s surface waters are assigned to one of thirteen different classes of waters (i.e., Class 1, 2AB, 2A, 2B, 2C, 2D, 3A, 3B, 3C, 3D, 4A, 4B, or 4C) where designated uses are bundled together. Although there are many different classes and combinations of designated uses, in some cases there are very few differences between the classes. For example, there are currently no differences in water quality criteria between Class 2B warm water and Class 2C waters, no differences in designated uses between any of the Class 3 waters, and no differences in designated uses between any of the Class 4 waters.

The existing system also makes it difficult to add new designated uses, as it requires many new classes of waters to ensure that all the potential designated use combinations are available. For example, WDEQ/WQD is interested in expanding Wyoming’s aquatic life designated uses and adopting revised temperature criteria in the future to better reflect the thermal regimes necessary to protect fish. If WDEQ/WQD were to add new aquatic life designated uses to the existing system, many additional “classes” of waters would need to be added, making the current classification system even more complicated. The current system also does not include any classes that have fisheries uses without fish consumption uses (i.e., you cannot remove a fish consumption use from waters designated for fish), despite the fact that several of Wyoming’s surface waters contain fish that are not consumed by the public (e.g., small nongame fisheries).

Under the existing system, many waters are assigned multiple aquatic life uses (e.g., 2AB waters are designated for cold water game fish, nongame fish, and aquatic life other than fish; 2C waters are designated for nongame fish and aquatic life other than fish, etc.), despite the fact that most aquatic life water quality criteria are intended to protect the entire aquatic community. In addition, surface water quality assessments generally evaluate the entire aquatic community rather than game fish, nongame fish, and aquatic life other than fish independently. As such, having multiple aquatic life uses has limited benefits and creates unnecessary confusion.

WDEQ/WQD is therefore considering moving away from the current classification system to a new system that will allow WDEQ/WQD to more accurately assign designated uses and water quality criteria to Wyoming’s surface waters. The new system would assign designated uses independent of one another and combine the aquatic life uses into a single aquatic life use (e.g., waters designated for cold water game fish, nongame fish, and aquatic life other than fish would be designated for cold water aquatic life). Under the new system, water quality criteria and designated uses would remain the same on all waterbodies until a use attainability analysis or site-specific criteria were completed. As a result, there would be no immediate changes to permit limits or assessment decisions since the assigned designated uses and water quality criteria would remain the same. In addition, antidegradation protections would remain the same under a new system: the Class 1 designation and protections would be retained; antidegradation requirements for other waters would continue to apply on a waterbody by waterbody basis: tier 2 protections would apply to waters designated for drinking water and fisheries and tier 3 protections would apply to all other waters.

3.4 Section 5, Standards Enforcement.

In August 2015, USEPA [finalized revisions](#) to the federal regulations for surface water quality standards (40 CFR Part 131). Part of the revisions identify that states must adopt a permit compliance schedule authorizing provision and submit it to EPA for review and action under Section 303 of the Clean Water Act. Wyoming adopted a compliance schedule authorizing provision in the Water Quality Rules and Regulations, Chapter 2, Permit Regulations for Dischargers to Wyoming Surface Waters (see Section 5(c)(ii)(D)), however, Chapter 2 has not been submitted to EPA under Section 303 of the Clean Water Act.

Chapter 1, Section 5 currently includes the following statement, “These regulations shall not be interpreted to preclude the establishment of appropriate compliance schedules for permitting purposes...” WDEQ/WQD is considering revising Section 5 to make it more explicit that the rules authorize the use of schedules of compliance. WDEQ/WQD is also considering, as an alternative, submitting the applicable section of Chapter 2 to EPA to fulfill this requirement.

3.5 Section 18, Human Health.

Section 18 currently identifies that the water quality criteria for “Human Health Consumption of Fish and Drinking Water” and the “Human Health Consumption of Fish” included in Appendix B of the regulations “shall not be exceeded.” Wyoming’s human health criteria for consumption of fish and drinking water and consumption of fish are based on EPA’s recommended [Human Health Ambient Water Quality Criteria](#) or maximum contaminant levels (MCLs) established by the EPA under the Safe Drinking Act, whichever is more stringent.

EPA’s recommended human health ambient criteria are intended to minimize the risk of adverse effects to human health from chronic (i.e., lifetime) exposure to substances through the ingestion of drinking water and consumption of fish obtained from surface waters. Although the expectation is that drinking water obtained from surface waters is treated to acceptable levels prior to human consumption, WDEQ/WQD applies the human health criteria for consumption of drinking water and aquatic organisms to surface waters to protect surface waters used as drinking water supplies and to minimize treatment costs for public water systems. However, human health criteria are calculated based on acceptable daily intake levels that will result in no observable adverse effect to human health over a lifetime of exposure. As such, applying the criteria as never to be exceeded concentrations is not necessary to support drinking water and fish consumption uses because periodic, short-term excursions above the recommendations can occur and not jeopardize public health or cause significant impacts to public water supplies.

WDEQ/WQD is therefore considering what duration (i.e., the period of time over which the magnitude is evaluated) and frequency (i.e., how often the criteria can be exceeded) components could be added to the human health criteria outlined in Section 18 to ensure that the water quality criteria are protective but also recognize that the criteria were derived to protect against chronic or lifetime exposure of pollutants.

3.6 Section 23, Turbidity Criteria.

Wyoming’s existing turbidity criteria provide the following limits: a 10 NTU increase to Class 1 and 2 cold water fisheries and/or drinking water supplies and a 15 NTU increase to Class 1 and 2 warm water or nongame fisheries. The criteria do not include a duration of time over which the increases can occur or

the frequency of times the increases can occur. In addition, the criteria do not provide any details on how to determine “increases.”

Although Wyoming’s surface water quality standards have always included turbidity, the origin of Wyoming’s existing turbidity criteria is not clear. Historically, WDEQ/WQD has adopted USEPA recommended water quality criteria to protect designated uses, yet Wyoming’s turbidity criteria do not appear to be derived from USEPA’s recommendations. USEPA’s current recommendations for “solids suspended and turbidity” reference the [1986 Gold Book](#); the recommended criteria were intended to protect aquatic life and identify that “settleable and suspended solids should not reduce the depth of compensation point for photosynthetic activity by more than 10% from the seasonally established norm for aquatic life.”

In an effort to evaluate the current science associated with suspended and bedded sediments, USEPA developed a [draft document in August 2003](#) that described potential approaches to developing water quality criteria for suspended and bedded sediments (SABS). The document describes that SABS are a unique water quality problem compared to toxic chemicals in that SABS occur naturally in water bodies and are essential to the ecological function of a water body. The document describes that the severity of impacts to changes in SABS quantity and timing is a function of many factors that include sediment concentration, duration, particle size, life history stage, temperature, and physical and chemical characteristics of the particles, which are generally site-specific. Based on this and WDEQ/WQD’s experience with the extremely variable nature of turbidity within and across Wyoming’s surface waters, WDEQ/WQD is considering revising the existing turbidity criteria to better reflect the variability in turbidity both within and between surface waters.

3.7 Section 25, Temperature.

Section 25(e) states that the temperature criteria, with exceptions for mixing zones (Section 9) and flow conditions (Section 11), applies “at all times and at all depths of the receiving water.” However, it is not necessary for the temperature criteria to apply at all times and at all depths to protect the cold water or warm water fishery. Lakes and reservoirs routinely undergo thermal stratification where the surface water temperatures are warmer and deeper water temperatures are cooler. Likewise, streams and rivers have locations with warmer water temperatures (e.g., side channels and backwater areas) and cooler water temperatures (e.g., pools). In both streams and reservoirs, portions of the waterbody may exceed Wyoming’s temperature criteria at certain times, yet continue to support their respective fisheries uses because fish can move to areas with more desirable temperatures. WDEQ/WQD is therefore considering removing Section 25(e) because it is not necessary for the temperature criteria to apply at all times and at all depths of the receiving water and still protect aquatic life.

3.8 Section 27, *E. coli* Bacteria.

Section 27 includes numeric concentrations of *E. coli* to protect primary and secondary contact recreation as well as single sample maximum concentrations of *E. coli* that can be used to post recreational use advisories in public recreation areas and derive single-sample maximum effluent limitations on point source discharges. In 2012, USEPA released revised recreational [criteria for primary contact recreation](#). The revised criteria include recommendations for geometric mean concentrations of *E. coli* to protect primary contact recreation at the same level as Wyoming’s existing primary contact recreation *E. coli* criteria, 126 colony forming units per 100 milliliters. The revised criteria also include a statistical threshold value of 410 colony forming units per 100 milliliters that should not be exceeded by more than 10 percent of the samples taken. In addition, the revised criteria

include geometric mean concentrations enterococci as well as a statistical threshold value of enterococci. WDEQ/WQD is reviewing the revised recommendations to determine potential revisions to Wyoming's recreation criteria.

WDEQ/WQD is also considering renaming Section 27 as "Recreation" and adding a narrative criteria. The narrative criteria would identify the water quality conditions necessary to support primary and secondary contact recreation and could be used to protect waters against additional waterborne pathogens or pollutants that would not be covered by Wyoming's existing *E. coli* criteria (e.g., cyanotoxins, *Cryptosporidium*, *Giardia*, etc.).

3.9 Section 31, Colorado Basin Salinity.

In response to Governor Matthew Mead's April 2013 rule streamlining initiative, WDEQ/WQD eliminated Chapter 6 that contained reference to the Colorado River Basin Salinity Control Standards and adopted them into Chapter 2 of the Water Quality Rules and Regulations. As such, WDEQ/WQD anticipates updating the now outdated reference to Chapter 6.

3.10 Section 34, Use Attainability Analysis.

In August 2015, the USEPA [finalized revisions](#) to the federal regulations for surface water quality standards (40 CFR Part 131). The revisions to 40 CFR 131.20(b) clarified that states shall hold one or more public hearings for reviewing as well as revising water quality standards, in accordance with State law and EPA's public participation regulation (40 CFR Part 25). 40 CFR Part 25 requires that a minimum of 45-day notice be provided prior to public hearings. WDEQ/WQD is therefore considering updating Section 34 to specify that a public hearing with a minimum of 45-day notice is required for changes to designated uses.

In addition, in April 2017, Chapter 1 of the Rules of Practice and Procedure were updated and the process for appealing final actions of Administrators or the Director are now contained in Section 8 rather than Section 16. As such, WDEQ/WQD anticipates updating the reference to Chapter 1, Section 8 of the Rules of Practice and Procedure.

WDEQ/WQD is also considering whether it may be appropriate to rename and/or reorganize Sections 34 and 33 to make it clear that site-specific criteria and changes to designated uses have their own administrative processes.

3.11 Appendix B, Human Health Criteria.

WDEQ/WQD is considering adopting USEPA's revised recommended human health water quality criteria for 94 pollutants. In 2015, USEPA released [revised recommended ambient water quality criteria](#) for the protection of human health to reflect the latest scientific information and USEPA policies, including updated fish consumption rates, body weight, drinking water intake, health toxicity values, bioaccumulation factors, and relative source contributions. The criteria establish acceptable levels of pollutants to protect people who consume water and aquatic organisms or solely aquatic organisms from surface waters.

3.12 Appendix B, Footnotes.

Footnotes 2 and 8. USEPA's [2015 updated human health criteria](#) are based on updated fish consumption rates, body weight, and drinking water intake rates. Since WDEQ/WQD is considering adopting USEPA updated recommendations, WDEQ/WQD is also considering updating the assumed quantities of water and aquatic organisms consumed per day within footnotes 2 and 8 of Appendix B.

Footnote 11. In 2013, Wyoming adopted the following sentence of Footnote 11, "Criterion only applies where drinking water is an actual use." WDEQ/WQD adopted this provision to allow flexibility in how the secondary drinking water criteria are applied to surface waters because Wyoming's drinking water designated use generally applies to all waters designated as game fisheries. The USEPA did not act on this portion of Wyoming's surface water quality standards due to concerns about modifying designated uses and water quality criteria without first going through the formal process. WDEQ/WQD is therefore considering removing this sentence to avoid potential conflicts with USEPA over where the criteria apply.

3.13 Appendix B(c), Site-Specific Criteria.

WDEQ/WQD is considering whether to include a site-specific dissolved selenium criteria for the lower portion of Murphy Creek in the Powder River Basin near Kaycee, Wyoming. Selenium in Murphy Creek is naturally elevated due to the presence of seleniferous geologic formations in the watershed. The Powder River Conservation District submitted a proposed site-specific criteria for Murphy Creek to WDEQ/WQD in 2010 and supplemental information in 2011; WDEQ/WQD has been working with USEPA and the Powder River Conservation District to refine the proposed criteria and supporting documentation.

3.14 Implementation Policies.

Historically, Wyoming's Implementation Policies for Antidegradation, Mixing Zones and Dilution Allowances, Turbidity, and Use Attainability Analysis" have been revised alongside Chapter 1. However, limiting the revision of some of these guidance documents to only those periods of time when Chapter 1 is being revised does not provide sufficient flexibility if issues or errors are identified. In addition, only revising these documents with Chapter 1 blurs the line between rules, implementation methods, and guidance. WDEQ/WQD is therefore considering which aspects of the existing implementation "policies" should be retained as "implementation methods" that incorporate public input and which are more appropriate as guidance documents. WDEQ/WQD is also considering whether it may be beneficial to provide a separate public review process for portions of the implementation methods that are retained, rather than accepting comments on the implementation methods during the revision of Chapter 1.

The federal water quality standards regulations at 40 CFR Part 131 provide some guidance on this issue. The federal regulations on antidegradation at 40 CFR § 131.12, for example, outlines that states shall develop a statewide antidegradation "policy" and "implementation methods" and that the State shall provide an opportunity for public involvement during the development and any subsequent revisions of the "implementation methods." In general, the term "policy" within 40 CFR Part 131 is considered a regulation and is included in Chapter 1 (e.g., Sections 7 and 8 of Chapter include Wyoming's Antidegradation "policy," consistent with the federal regulations). Wyoming's Antidegradation Implementation Policy includes more detailed "implementation methods" for the concepts included in Chapter 1, Sections 7 and 8. WDEQ/WQD could therefore retain the

Antidegradation Implementation Policy as it is currently and obtain public input on the policy during revisions of Chapter 1; as an alternative WDEQ/WQD could provide a separate opportunity for public input on the policy, outside of the rule revision process. To be consistent with 40 CFR § 131.5(a)(3), USEPA is responsible for reviewing and determining whether the “State adopted antidegradation implementation methods are consistent with § 131.12.”

The federal regulations also speak to other “policies” at 40 CFR § 131.13, which specifies that “states may, at their discretion, include in their standards, policies generally affecting their application and implementation, such as mixing zones, low flows and variances. Such policies are subject to EPA review and approval.” Chapter 1, Section 9 outlines Wyoming’s approach for mixing zones, and Chapter 1, Section 11 outlines Wyoming’s approach for flow conditions. As such, WDEQ/WQD could retain the Mixing Zone and Dilution Allowances Policy as an “implementation method” and provide an opportunity for public review and comment or move the content of that document to a guidance document.