



October 12, 2018

Kevin Frederick, Administrator  
Department of Environmental Quality  
Water Quality Division  
200 West 17<sup>th</sup> Street, Suite 400  
Cheyenne, WY 82002

**Re: Triennial Review of Water Quality Standards**

Comments submitted online at <http://wq.wyomingdeq.commentinput.com/>

Dear Mr. Frederick,

The Wyoming Outdoor Council is submitting this letter in response to the public notice inviting public comment on the Water Quality Division's (WQD) "upcoming revisions to Water Quality Rules and Regulations, Chapter 1, Wyoming Surface Water Quality Standards." Our comments address the topics covered in the Initial Scoping document dated August 2018 ("scoping report"), as well as other emerging water quality issues.

Established in 1967, the Wyoming Outdoor Council is the state's oldest and largest independent statewide conservation organization. The Council works to protect Wyoming's environment and quality of life for future generations.

Based on information presented in the scoping report, it appears the WQD is considering sweeping changes to the state's water quality standards. As you move forward with this effort, we urge you to keep in mind the basic purposes of the Clean Water Act (CWA): to restore and maintain the chemical, physical, and biological integrity of the Nation's waters; and, wherever attainable, to achieve a level of water quality that provides for the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water. Water quality standards are designed to achieve these purposes. Water quality standards consist of (i) a designated use, (ii) water quality criteria necessary to protect the designated uses, and (iii) anti-degradation requirements.

Our specific comments follow.

## **Public Outreach Efforts Should be Expanded.**

The WQD scheduled public hearings concerning this review in Casper and in Cheyenne on September 24<sup>th</sup> and September 28<sup>th</sup>, respectively. Unfortunately, many interested parties, particularly outdoor recreation businesses and public land users who reside in the western areas of the state, were unable to attend due to the time, effort and costs associated with travel to those locations. The highway distance from Jackson to Casper and back is 568 miles, requiring approximately ten hours of driving time, and for some, an overnight stay in Casper. From Lander, round trip travel time to Casper is approximately 5 hours. This situation makes it difficult for members of the public to effectively participate in this DEQ process in which public input is so critical to the outcome. For these reasons, we request that additional public hearings and other outreach efforts be scheduled in Jackson and Lander. In accordance with 40 CFR § 131.20, these hearings should be held on the **proposed** revised water quality standards, rather than on revisions being *considered* in the scoping document:

(b) Public participation. The State shall hold one or more public hearings for the purpose of reviewing water quality standards as well as when revising water quality standards, in accordance with provisions of State law and EPA's public participation regulation (40 CFR part 25). The **proposed** water quality standards revision and supporting analyses shall be made available to the public prior to the hearing.

See §131.20(b). State review and revision of water quality standards (emphasis added).

We understand that, in a strictly technical sense, the mandatory hearing before the Environmental Quality Council on the proposed revisions could satisfy CWA public participation requirements. Our concern is that by the time a proposal reaches this advanced stage in the rulemaking process, the proposed changes are “baked in,” are fully supported by the DEQ, and are pushed along by bureaucratic inertia with little likelihood that public comments will have any effect on the proposal. To be meaningful, the public hearings should be held at a point in the process where there is a concrete proposal to comment on, but also early enough in the process to allow for revisions based on public comment. The hearings should also be held in locations around the state where public interest in the process is likely to be high, such as Jackson and Lander.

## **SECTION BY SECTION COMMENTS**

### **2.0 BACKGROUND**

The WQD Scoping Report states (at 3) that “DEQ/WQD is considering making the proposed changes available to the public for comment prior to meeting with the Water and Waste Advisory Board....” We encourage the WQD to do so. To ensure the most focused, meaningful and helpful comments, the public should have an opportunity to review and comment on the proposal being presented to the Advisory Board.

### 3.0 POTENTIAL REVISION UNDER CONSIDERATION

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

The Wyoming Outdoor Council supports efforts to reduce redundancy and to ensure definitional clarity and consistency.

#### 3.2 Section 2(b), Recreation Definitions.

The Wyoming Outdoor Council supports the existing definitions of primary contact recreation (PCR) and secondary contact recreation, and cautions DEQ/WQD against making changes. As affirmed in the EPA's September 2017 action letter on the WQD's Categorical Use Attainability Analysis for Recreation, the existing definition of PCR not only includes activities that result in full body contact, such as swimming and kayaking, but also activities "that could be expected to result in ingestion of the water" such as head dunking and splashing. As demonstrated in public comments on the UAA, these are common (and existing) recreational uses in Wyoming's surface waters, particularly on public lands managed by the Forest Service and Bureau of Land Management in the western regions of the state where public lands comprise the majority of the surface ownership.

The Scoping Report indicates that the WQD is "considering revising the definitions of primary contact recreation and secondary contact recreation to more clearly define the uses." The WQD attempted to narrow the definition of PCR in the UAA, but the EPA properly rejected that effort, stating "the state cannot change the definition of PCR through interpretative statements." See EPA Action Letter at 19.

As stated above, we do not believe any revisions to the definitions are necessary. Nonetheless, if the WQD believes changes to the definitions of primary contact recreation are needed, they must include (and protect) common and existing recreational uses of Wyoming's surface waters "that could be expected to result in ingestion of the water." As noted above, these uses include but are not limited to splashing (both for cooling off and "child's play"), head dunking, and bathing, both instream and away from the stream (e.g. use of solar showers).

#### 3.3 Section 3 and 4, Water Uses and Surface Water Classes and Uses.

Following a summary and critique of the existing water quality standards (WQS) classification system, the scoping report states that the WQD "is 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." We are concerned that the new classification system being contemplated by the WQD may ultimately result in weaker standards and lower water quality, and therefore will need more information from the WQD before offering specific comments on this section.

The scoping report states that, “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.” Is the WQD planning to conduct UAAs on all of the state’s surface waters? Suffice it to say that we are highly skeptical of the motivations behind the contemplated changes; the WQD will need to demonstrate to the public throughout this process that it is committed to restoring, maintaining and protecting the quality of the state’s surface waters.

#### 3.4 Section 5, Standards Enforcement.

The scoping report presents two options for compliance with 40 CFR Part 131’s requirement for a permit compliance schedule authorizing provision: 1) Revising Chapter 1, Section 5 “to make it more explicit that the rules authorize the use of schedules of compliance” or, 2) submitting the applicable section of Chapter 2 to EPA to under Section 303 of the Clean Water Act. We have no opinion at this time as to which approach is more desirable. We support efforts to reduce redundancy, avoid confusion, and achieve/maintain compliance with the federal Clean Water Act and its implementing regulations.

#### 3.5 Section 18, Human Health.

The scoping report suggests that the WQD considers the current rules to be overly protective of human health (“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.”). Perhaps. But we urge the WQD to err on the side of protection, and not weaken the rules because it sees an opportunity to do so. Is there a problem with compliance with Section 18 that triggered this discussion? We are concerned about this proposal, and also about the general regulatory philosophy it reveals, which seems to be that if the state can find a way to lower the level of protection for Wyoming’s surface waters, it will. The WQD should maintain the strongest possible standards for the protection of human health and the environment.

#### 3.6 Section 23, Turbidity Criteria.

The scoping report indicates that the WQD “is considering revising the existing turbidity criteria to better reflect the variability in turbidity both within and between surface waters.” If WQD decides to move ahead with a revision to the existing turbidity criteria, we encourage the use of the best available science to inform the process; the draft EPA report referenced in this section is now 15 years old. We would also encourage the WQD to review criteria for suspended and bedded sediments adopted or under consideration by other Rock Mountain States, including Idaho and New Mexico, both of which are discussed in the 2003 EPA draft report.

#### 3.7 Section 25, Temperature.

Warming temperatures due to climate change pose increasing risks to aquatic life, particularly cold-water species such as native cutthroat trout. Yet the WQD is considering removing Section 25(e), claiming that “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.” While we recognize that water temperatures fluctuate in response to seasons, flows, stream characteristics, weather, etc., we do not agree that removing the temperature criteria in section 25(e) is an appropriate action. It clearly is necessary to apply the temperature criteria at *some* times and at *some* depths to protect aquatic life. Rather than eliminating the criteria, we recommend that WQD investigate alternatives that would apply the criteria at critical times of the year and to critical areas of the water body, for example, refugia for aquatic organisms. Before proposing any changes to section 25, we suggest that DEQ convene an independent science advisory group for guidance and recommendations concerning appropriate temperature criteria.

The EPA’s Water Quality Standards Handbook states, in part, that:

Water temperature is an important aspect of protecting aquatic life, such as in cold water habitats where certain species may require cold water to survive. Some waters are naturally warm at certain times of the year due to factors including increased solar radiation and warm air temperature. However, human activities (e.g., removal of streamside vegetation that provides shade, discharges of heat from municipal and industrial facilities, and water withdrawals) can also increase water temperature by increasing the heat load into the water body, reducing the water body’s capacity to absorb heat, and eliminating or reducing the amount of groundwater flow, which helps to moderate temperatures. Some human activities can also decrease water temperatures, for example, when cold water is released from the bottom of a thermally stratified reservoir behind a dam.

State and authorized tribal water quality criteria for temperature can play an important role in meeting the CWA Section 101(a)(2) goal of “protection and propagation of fish, shellfish, and wildlife” by protecting the habitat in which such aquatic life live. The EPA’s current 304(a) criteria recommendations for temperature are found in *Quality Criteria for Water 1986*, commonly known as the “Gold Book.” In addition, the EPA’s Region 10 office has developed guidance on the development of temperature criteria for the protection of salmonids as well as other supporting materials and technical products, including a primer for identifying cold water refuges to protect and restore thermal diversity in riverine landscapes.

See Water Quality Standards Handbook Chapter 3, Water Quality Criteria at 23.

If Section 25(e) is to be removed, it would be necessary to review other elements of this section to determine whether adequate protection for aquatic life will be achieved.

On a related matter, what is the scientific basis for allowing in the existing standards a temperature increase of 2 degrees Fahrenheit in cold water fisheries and 4 degrees Fahrenheit in warm water fisheries?

### 3.8 Section 27, *E. coli* Bacteria.

The scoping report states that the WQD will review the EPA's 2012 revised recreation criteria for primary contact recreation "to determine potential revisions to Wyoming's recreation criteria." It also indicates that the WQD "is 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.).

Scoping report at 7.

At first blush, this contemplated change appears to be a welcome and positive step toward better protection for recreational uses, and we would welcome discussion with the WQD to flesh out the details. As the WQD knows from its experience with the controversial Categorical Use Attainability Analysis for Recreation, Wyoming folks are passionate about protecting opportunities for outdoor recreation, and will support efforts they believe will enhance the availability and quality of outdoor recreation activities available in this state.

### 3.9 Section 31, Colorado Basin Salinity.

We support the WQD's proposal to update "the now outdated reference to Chapter 6."

### 3.10 Section 34, Use Attainability Analysis.

We support and encourage more diligent and targeted efforts to facilitate public involvement in all of the WQD's activities, including the development, review, and revisions to water quality standards. Thus, we encourage you to go forward with an update to Section 34 to specify that a public hearing with a minimum of 45-day notice is required for changes to designated uses. Public hearings should also be required for revisions to the other two required elements of water quality standards: water quality criteria and an anti-degradation requirement.

On an important and related topic, in selecting the location for public hearings, please understand that Casper and Cheyenne are inconvenient locations for residents of Rock Springs, Lander, Jackson, Cody, Alpine, etc., to attend. In addition, and perhaps more importantly, by limiting water quality-related hearings to Cheyenne and Casper, the WQD is not receiving the concerns and perspectives of a significant segment of the outdoor recreation community, such as NOLS (headquartered in Lander) and dozens of other outdoor recreation businesses and organizations that operate on, and/or depend on, public lands/ivers in the western regions of the state.

Finally, it should be noted that hearings and meetings held during normal work hours, while convenient for DEQ and other agency staff, are difficult for members of the public with full-time jobs to attend.

### 3.11 Appendix B, Human Health Criteria.

The Wyoming Outdoor Council supports the WQD's adoption of the EPA's revised recommended human health water quality criteria for 94 pollutants.

### 3.12 Appendix B, Footnotes.

Footnotes 2 and 8. Unless the WQD has more accurate and reliable information on which to base a decision, we support the proposed adoption of EPA's assumed quantities of water and aquatic organisms consumed per day.

Footnote 11. We support the WQD's proposal to remove the sentence, "Criterion only applies where drinking water is an actual use" from Footnote 11 to avoid potential conflicts with USEPA over where the criteria apply.

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

The 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." Without seeing the proposed criteria and supporting documentation, we are unable to offer any comments on this section.

### 3.14 Implementation Policies.

The WQD has expressed a concern that "limiting the revision of some of these guidance documents [Implementation Policies for Antidegradation, Mixing Zones and Dilution Allowances, Turbidity, and Use Attainability Analysis] to only those periods of time when Chapter 1 is being revised does not provide sufficient flexibility if issues or errors are identified." We believe that public review and comment opportunities, along with the right to seek administrative review before the EQC, on all of the above-mentioned policies is necessary and important to maintain. These policies have typically been reviewed during the triennial

review. If the WQD decides to review any of these polices outside of the triennial review process, we encourage full public comment opportunities with opportunity for a hearing and appeal. That said, we would be happy to work with the WQD to seek opportunities for flexibility to correct errors or address new issues as they arise.

### **Emerging Water Quality Challenges.**

We encourage the WQD to consider the following emerging and potentially significant water quality issues confronting Wyoming, and to determine whether water quality standards and/or water quality criteria should be developed (or revised) to address the potential threats to human health and the environment from these pollutants.

#### ***Micro Plastics***

Microplastics are the miniscule plastic fragments (smaller than 0.04 inch) that fall off of decomposing plastic bottles and bags, and are intentionally manufactured into some toothpastes and lotions. Scientists have found microplastics nearly everywhere, particularly in lakes, rivers, and aquatic animals. *See Microplastics in our Nation's waterways*, Department of the Interior, U.S. Geological Survey, <https://owi.usgs.gov/vizlab/microplastics/>

We encourage the WQD to investigate whether water quality criteria should be developed for microplastics. Research into this field is developing rapidly. *See, e.g., Microplastics in freshwater and terrestrial environments: Evaluating the current understanding to identify the knowledge gaps and future research priorities*, Science of The Total Environment Volume 586, 15 May 2017, Pages 127-141.

<https://www.sciencedirect.com/science/article/pii/S0048969717302073>

#### ***Pharmaceuticals***

A number of studies have investigated the impact of pharmaceutical contamination of the water environment on aquatic organisms. *See, e.g.,* EPA website: Contaminants of Emerging Concern including Pharmaceuticals and Personal Care Products, and linked reports and recommendations.

<https://www.epa.gov/wqc/contaminants-emerging-concern-including-pharmaceuticals-and-personal-care-products>

*See also, Pharmaceuticals in the Surface Water of the USA: A Review*, Current Environmental Health Reports, June 2014, Volume 1, Issue 2, pp 113–122

<https://link.springer.com/article/10.1007/s40572-014-0015-y>

Given the widespread presence of pharmaceuticals in the environment, we encourage the WQD to thoroughly investigate whether water quality criteria for this and other contaminants of emerging concern (CEC) are needed to protect the quality of the state's surface waters.

### ***Fracking fluids***

We encourage the WQD to investigate and consider the development of water quality criteria for chemicals—particularly those known to be endocrine disruptors—used by the oil and gas industry for hydraulic fracturing. Chemicals used for hydraulic fracturing are entering our environment in increasingly significant quantities. See, e.g., BLM Draft Environmental Impact Statement for the Converse County Oil and Gas Project, <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=66551>

Numerous studies have raised concerns about a potential link between exposure to fracking chemicals and adverse health effects. See [https://scholar.google.com/scholar?q=Fracking+and+endocrine+disruptors&hl=en&as\\_sdt=0&as\\_vis=1&oi=scholar](https://scholar.google.com/scholar?q=Fracking+and+endocrine+disruptors&hl=en&as_sdt=0&as_vis=1&oi=scholar)

### ***Nutrients***

Algal blooms caused by excessive nutrients are a significant and growing concern across the United States, and Wyoming is no exception. The WQD recognizes this threat, and is engaged in ongoing efforts to confront it. Along with efforts to develop appropriate numeric criteria for nitrogen and phosphorous, we would appreciate consideration of a new narrative standard that is specific to blue green algae and harmful algal blooms. The standard should address, among other things, the aesthetic and related impacts to recreational users. For background, see Brooks, Brian W., *Are harmful algal blooms becoming the greatest inland water quality threat to public health and aquatic ecosystems?* Environmental Toxicology and Chemistry, December 21, 2015.

<https://setac.onlinelibrary.wiley.com/doi/full/10.1002/etc.3220>

### ***Invasive species***

Aquatic invasive species are a major and growing threat to Wyoming's waterways. See <https://wgfd.wyo.gov/Fishing-and-Boating/Aquatic-Invasive-Species-Prevention> We would appreciate a review by WQD of Wyoming's existing water quality standards to determine whether narrative and/or numeric criteria adequately recognize and address the threats.

### ***Climate change***

A warming planet of course means warming surface waters, along with potentially significant effects to the physical, chemical and biological integrity of Wyoming's lakes, streams and rivers. We would appreciate some consideration by the WQD as to whether water quality standards could be developed (or revised) to build resilience into natural systems in order to prepare for and potentially mitigate the impacts of some of these changes. This subject is discussed in detail in a law review article entitled, *Climate Change Comes to the Clean Water*

*Act: Now What?* Washington and Lee Journal of Energy, Climate, and the Environment Volume 1 | Issue 1 Spring 3-1-2010.

<http://law2.wlu.edu/deptimages/Journal%20of%20Energy,%20Climate,%20and%20the%20Environment/Craig.pdf>

***Conclusion***

The Wyoming Outdoor Council appreciates the opportunity to comment on the WQD's August 2018 scoping report and looks forward to actively participating in the administrative process leading to possible revisions of the state's water quality standards.

Sincerely,



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