Triennial Review of Wyoming's Surface Water Quality Standards

Response to Comments Received During Written Comment Period Ending on November 15, 2024

December 2024

Prepared by:
Wyoming Department of Environmental Quality
Water Quality Division
Watershed Protection Program

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

Table of Contents

Recommended Citation: WDEQ-WQD. December 2024. Triennial Review of Wyoming's Surface Water Quality Standards. Response to Comments For Written Comment Period Ending November 15, 2024. Wyoming Department of Environmental Quality, Water Quality Division, Cheyenne, Wyoming.

1.0 Summary

Wyoming Water Quality Rules, Chapter 1, Wyoming Surface Water Quality Standards, implements portions of the Wyoming Statutes, W.S. § 35-11-302, and the federal Clean Water Act (CWA), 33 United States Code (U.S.C) § 1251 et seq., and includes designated uses, water quality criteria, antidegradation requirements, and provisions to guide implementation of the water quality standards. The CWA requires states to review and modify, as necessary, their water quality standards at least every three years, known as a triennial review. Pursuant to the CWA and implementing regulations at 40 CFR § 131, the water quality standards must be submitted to the United States Environmental Protection Agency (EPA) and become effective for CWA purposes upon approval by the EPA.

On April 11, 2024, in anticipation of the June 13, 2024, Water and Waste Advisory Board (WWAB) meeting and following an extensive scoping and development process[1], the Wyoming Department of Environmental Quality-Water Quality Division (WDEQ-WQD) released for public comment proposed revisions to Wyoming Water Quality Rules, Chapter 1, Wyoming Surface Water Quality Standards (Chapter 1) and minor revisions to Chapter 2, Permit Regulations for Discharges to Wyoming Surface Waters (Chapter 2), that address changes to Chapter 1. Comments were accepted at the June 13, 2024, WWAB meeting and written comments were accepted until 5 PM on June 13, 2024. Following review of the comments[2], WDEQ-WQD proposed additional revisions to Chapters 1 and 2 and made the proposed revisions available for public comment on October 15, 2024, (see Appendix A for public notices) in anticipation of the December 12, 2024, WWAB meeting. Written comments were received until 5 PM on November 15, 2024, and WDEQ-WQD's responses to the comments received are provided in Section 3 of this document (see Appendix B for written comments). The comments informed the proposed revisions to Chapters 1 and 2 that will be considered by the WWAB during their December 12, 2024, meeting.

[1] Wyoming Department of Environmental Quality. Water Quality Division. Triennial Review of Wyoming's Surface Water Quality Standards. Response to Comments Received During Scoping. April 2024.

[2] Wyoming Department of Environmental Quality. Water Quality Division. Triennial Review of Wyoming's Surface Water Quality Standards. Response to Comments Received During Written Comment Period and Water and Waste Advisory Board Meeting, June 13, 2024. October 2024.

2.0 Commenters and Commenter Index

2.1 Commenters and Acronyms

Commenter	Acronym
Powder River Basin Resource Council, Wyoming Outdoor Council, Protect Our Water Jackson Hole	PRBRC, WOC, POWJH
United States Environmental Protection Agency	EPA

2.2 Commenter Index

3.0 Chapter 1 Comments and Responses

3.1. General Comments.

EPA: As noted in our June 13, 2024 comments, the EPA commends WDEQ's efforts to improve the usability and clarity of Wyoming's WQS. We also commend and support WDEQ's progress toward meeting the triennial review requirement at 40 CFR § 131.20(a). We appreciate WDEQ's efforts to resolve outstanding WQS items that the EPA had not acted on previously and its revisions in response to several of our June 13, 2024 comments on the first public notice draft of the revised WQS. WDEQ is proposing revisions in this draft which address several of the EPA's June 13, 2024 comments, including those pertaining to:

- the definition of natural,
- a specific date for incorporation of the Colorado River Salinity Standards by reference,
- excluding the application of numeric criteria from low water levels in new Section 8,
- updates to new Sections 9 and 10 for better consistency with current Wyoming policies and CWA requirements and guidance related to mixing zones and dilution allowances,
- revising new Section 13(a)(ii)(C) for better consistency with 40 CFR § 131.12(a)(2),
- adding language to new Section 15(e) to clarify that narrative turbidity criteria still apply to the aquatic life uses, and
- maintaining the current selenium aquatic life criteria for Lower Murphy Creek

Department Response: WDEQ appreciates EPA's continued collaboration on the proposed revisions to Wyoming's surface water quality standards.

3.2. Section 8. Flow and Water Level Conditions.

PRBRC, WOC, POWJH: p. 1-8, line 340, Section 8(d): We suggest inserting "be" between "will" and "used."
Department Response: WDEQ-WQD is proposing to insert "be" between "will" and "used" in Section 8(d).

PRBRC, WOC, POWJH: p. 1-8, Table 1, footnote e: We suggest inserting "on average" after "every five years" at the end of the last sentence, to be consistent with the frequency statements elsewhere.
Department Response: WDEQ-WQD is proposing to modify footnote e in Table 1 to add "on average" after "every five years" for consistency with the other frequency statements.

PRBRC, WOC, POWJH: p. 1-8, Table 1, footnote e:
a. We suggest deleting "or water level" after "The harmonic mean flow", to be consistent with the removal of "water level" elsewhere.
b. We suggest changing "flow" to "flows" in "the reciprocals of the daily flow" at the end of the first sentence.
Department Response: WDEQ-WQD is proposing to modify footnote e to delete "or water level" after "harmonic mean flow" and change "flow" to "flows" in the "reciprocals of the daily flow" at the end of the first sentence.

3.3. Section 14. Designation of Outstanding Aquatic Resource Waters.

PRBRC, WOC, POWJH: p. 1-17, lines 709-711, Section 14(b)(v): Because the North Platte River flows into Colorado, "from the mouth of Sage Creek (approximately 15 stream miles downstream of Saratoga, Wyoming) upstream to the Colorado state line" does not appear to be stated correctly. We suggest either (a) changing "upstream" to "downstream" or (b) deleting "upstream".
Department Response: WDEQ-WQD is not proposing additional changes to Section 14(b)(v). The North Platte River flows north from Colorado into Wyoming. Therefore, the proposed text that specifies "mainstem of the

North Platte River from the mouth of Sage Creek (approximately 15 stream miles downstream of Saratoga, Wyoming) upstream to the Colorado state line, designated July 17, 1979," is correct.

PRBRC, WOC, POWJH: p. 1-17, lines 735-736, Section 14(b)(xiii): Because the mainstem of the Clarks Fork River flows into Montana, "from the U.S. Forest Service boundary upstream to the Montana state line" does not appear to be stated correctly. We suggest either (a) changing "upstream" to "downstream" or (b) deleting "upstream".

Department Response: WDEQ-WQD is not proposing additional changes to Section 14(b)(xiii). The Outstanding Aquatic Resource Water segment of the Clarks Fork River flows from Montana into Wyoming. Therefore, the proposed text that specifies "mainstem of the Clarks Fork River from the U.S. Forest Service boundary upstream to the Montana state line, designated July 17, 1979," is correct.

3.4. Section 16. Water Quality Criteria for Protection of Aquatic Life Uses.

PRBRC, WOC, POWJH: p. 1-20, lines 864-866, now numbered as Section 16(e): On page 19 of the WDEQ responses to comments file, USEPA commented on the inconsistency between Section 15(h) (which does not specify an exceedance frequency for pH excursions above and below the allowed range of 6.5-9.0, with reference to protection of all surface waters of the State) and Section 16(f) (which specifies an acceptable exceedance frequency of once every three years for pH excursions, with reference to protection of aquatic life). WDEQ responded by stating "… WDEQ-WQD has applied the one-in-three-year exceedance frequency to protection of aquatic life uses and not applied the one-in-three-year exceedance frequency to other designated uses." Although that might have been WDEQ's previous approach, we recommend that WDEQ remove the inconsistency and adopt USEPA's suggestion to "….delet[e] the criteria at 16(f) to eliminate confusion and to protect waters with an aquatic life use equally to those without one."

Department Response: As outlined in the *Response to Comments Received During Written Comment Period and Water and Waste Advisory Board Meeting, June 13, 2024*, WDEQ-WQD is not proposing additional changes to the pH criteria in Section 15 or Section 16. The WDEQ-WQD has applied the one-in-three-year exceedance frequency only to the protection of aquatic life uses and is not aware of implementation challenges associated with this long-standing practice. WDEQ-WQD may consider changes to the pH criteria during a subsequent triennial review.

PRBRC, WOC, POWJH: p. 1-24, Table 7: On pages 19-20 of the WDEQ responses to comments file, USEPA commented that WDEQ specifies the acute and chronic values listed for aluminum in Table 7 are to be interpreted as the dissolved fraction, but USEPA in its nationally recommended aquatic life criteria recommends that those same values are to be interpreted as the total recoverable fraction. USEPA correctly pointed-out that interpreting the tabulated numbers as the dissolved fraction will underestimate aluminum toxicity, and WDEQ responded by correctly pointing out that interpreting the tabulated numbers as the total recoverable fraction will overestimate aluminum toxicity. Erring on the under protective side, WDEQ chose to continue interpreting the tabulated values as the dissolved fraction – despite the fact that WDEQ is supposed to protect the environment and therefore should err on the side of overprotection instead of under protection when given that binary choice. We recommend that, in Table 7, WDEQ change "Aluminum, Dissolved" to "Aluminum, Total Recoverable". WDEQ can revise the acute and chronic aluminum values and(or) the specified analytical fraction to more appropriate values when it reviews EPA's 2018 nationally-recommended aluminum criteria during a subsequent triennial review.

PRBRC, WOC, POWJH: pp. 1-22 to 1-23, now numbered as Section 16(h): We support USEPA's recommendation that "Wyoming update its numeric ammonia criteria to reflect the EPA's 2013 recommendations and apply numeric criteria to all aquatic life designated uses, including those intended to protect organisms other than fish" (page 22 of the WDEQ responses to comments file). Although WDEQ stated that it "plans to review EPA's 2013 recommended ammonia criteria during a subsequent triennial review", we

recommend that WDEQ not wait to revise the ammonia values until a future triennial review that will occur years or decades from now.

PRBRC, WOC, POWJH: pp. 1-24 to 1-26, Table 7: Consistent with USEPA's request for justification on page 7 of the WDEQ responses to comments file, we recommend that WDEQ modify Table 7 by adopting USEPA's nationally recommended CWA Section 304(a) criteria that have become available since Wyoming's most recent triennial review, and also reconsider any other entries in Table 7 that could be replaced by more-recent USEPA recommended criteria

Department Response: As outlined in the *Response to Comments Received During Written Comment Period and Water and Waste Advisory Board Meeting, June 13, 2024*, WDEQ-WQD is not proposing additional changes to water quality criteria at this time. WDEQ-WQD plans to prioritize and review EPA's current nationally recommended aquatic life criteria during a subsequent triennial review.

PRBRC, WOC, POWJH: p. 1-23. Table 4: We suggest stating in the table caption or in a footnote, that pH in the equations is expressed as standard units and temperature (T) is expressed in degrees Celsius.

Department Response: WDEQ-WQD is proposing to add the following footnotes to Table 4: "T" represents temperature in degrees Celsius. "pH" represents pH in standard units.

PRBRC, WOC, POWJH: p. 1-23, Table 5:

a. We suggest inserting ")" at the end of the equation for "Cadmium, Dissolved".

b. We suggest inserting "as" before "calcium carbonate" in footnote a.

c. We suggest revising footnote c to "Use a value of 1.0 for the portion of the equation after the "*", if the calculated value of that portion of the equation exceeds 1.0."

Department Response: WDEQ-WQD is proposing to add ")" at the end of the equation for "Cadmium, Dissolved", insert "as" before "calcium carbonate" in footnote a, and revise footnote c to "Use a value of 1.0 for the portion of the equation after the "*" if the calculated value of that portion of the equation exceeds 1.0."

EPA: Narrative aquatic life criteria (Section 16). Wyoming's current WQS include narrative aquatic life criteria for Class 2A, 2D, 3 and 4 waters for several specific parameters (i.e., ammonia, dissolved oxygen, temperature) in addition to the current, more general narrative criteria. General narrative criteria that are not pollutant-specific are proposed at new Section 16(a) for all waters designated for aquatic life. Based on conversation with WDEQ and the *Supplementary Guidance to Statement of Principal Reasons* that discusses the narrative criteria in new Section 16(a), the EPA understands that Wyoming is not eliminating the pollutant-specific narrative criteria but rather clarifying that those narrative criteria apply to all pollutants (pp. 40-41). We are providing this comment to ensure our understanding is correct.

Department Response: As outlined in the *Statement of Principle Reasons* and the *Supplementary Guidance to the Statement of Principles Reasons*, the proposed narrative criteria in Section 16 consolidate all narrative water quality criteria applicable to aquatic life uses and add general narrative criteria to protect aquatic life uses from any potential pollutants. Rather than list pollutant specific narrative criteria, the general narrative criteria are intended apply to all potential pollutants.

EPA: Exceedance frequency for dissolved oxygen (DO) instantaneous minimum criteria (Section 16(g)). The new text in Section 16(g) says "…pollution shall not result in dissolved oxygen concentrations that are less than the concentrations in Table 3 more than once every three years." We understand from WDEQ's most recent Response to Comments document that the allowable exceedance frequency (once in three years) does not apply to the instantaneous minima criteria and only applies to the other DO criteria (pp. 16-17); however, this is not clear from the text at new Section 16(g). Consider adding text to clarify that the exceedance frequency does not apply to the instantaneous minima at either new Section 16(g) or footnote d to new Table 3. For

example, Section 16(g) could read "…pollution shall not result in dissolved oxygen concentrations that are less than the concentrations in Table 3 more than once every three years unless otherwise noted."

Department Response: WDEQ-WQD is proposing to add "except as specified for minima" to Section 16(g) to clarify that one-in-three-year exceedance frequency does not apply to the instantaneous minima concentrations.

EPA: It appears that the conversion factor (CF) for the chronic selenium aquatic life criterion at current footnote 10 to Appendix B may have inadvertently not been carried over into Wyoming's proposed water quality standards revisions.

- On September 29, 2008, the EPA approved the addition of a factor to convert the chronic aquatic life criterion for selenium from the total recoverable to the dissolved fraction (see attached).
- In its 2013 triennial revisions, Wyoming adopted an additional conversion factor at footnote 10 to convert the acute aquatic life criterion for selenium from the total recoverable to the dissolved fraction; however, the EPA did not act on that addition in our August 9, 2016 action letter on the 2013 triennial (also attached).
- Based on those action letters and earlier versions of Wyoming WQS, it seems that the CF for the chronic selenium criterion is in effect for Clean Water Act purposes but the CF for the acute selenium criterion is not. Consequently, the EPA recommends that Wyoming update its proposed WQS to reflect the chronic selenium CF and acceptable dissolved criterion currently at footnote 10. (Note: Current footnote 10 indicates that the selenium aquatic life criteria are for the total recoverable fraction of the metal in the water column and the current draft of Wyoming's revised WQS already note this within new Table 7.) A footnote to the chronic selenium criterion could read: "It is scientifically acceptable to use a conversion factor (0.922 for the chronic) to convert this number to a value that is expressed in terms of a dissolved metal. Using these conversion factors, the aquatic life chronic value for selenium is 4.61 µg/L as a dissolved metal."

Department Response: WDEQ-WQD is not proposing additional changes to the aquatic life selenium criteria footnotes. WDEQ-WQD proposed removing the conversion factors for both the chronic and acute aquatic life selenium criteria to avoid inconsistencies with application of the two criteria and clarify that aquatic life criteria for selenium are in for the total recoverable fraction. WDEQ-WQD routinely collects data in the total recoverable form and does not anticipate any issues with removing the conversion factor for the chronic criteria.

3.5. Section 18. Water Quality Criteria for Protection of and Human Consumption of Fish Uses.

PRBRC, WOC, POWJH: p. 1-34, lines 990-991, Section 18(b)(iii): We suggest changing "effluent-dependent human consumption of fish" to "human consumption of effluent-dependent fish", to be consistent with wording elsewhere about effluent-dependent fish

Department Response: WDEQ-WQD is proposing to change "effluent-dependent human consumption of fish" to "human consumption of effluent-dependent fish" for consistency throughout Chapter 1.

3.6. Section 22. Water Quality Criteria for Protection of Recreation Uses.

PRBRC, WOC, POWJH: p. 1-36, Table 10: In the matrix cell for "Single Sample Maxima" under "Full Body Contact Water Recreation During the Summer Recreation Season" in Table 10, WDEQ has reverted to *E. coli* values for the four use-intensity categories that were included in Section 27 in the 2018 version of Chapter 1 (i.e., the following four categories: high-use swimming areas, moderate full body contact, lightly used full body contact, and infrequently used full body contact). Each category has a different *E. coli* value assigned to it, and the values increase as the intensity of use of the water body decreases (i.e., increasing from 235 organisms allowed per 100 ml for high-use swimming areas to 576 organisms allowed per 100 ml for infrequently used

full body contact). We do not believe such differentiation among use-intensity categories is protective of human health, because people do not magically become more resistant to *E. coli* infection simply because those people swim in a less-intensively-used water body. People deserve the same level of protection from exposure to coliform bacteria wherever they swim, regardless of the intensity of the use of that water body. WDEQ does not, for example, stratify water quality criteria for exposure of fish and other aquatic life to priority pollutants based on how many fish are in a given water body, and the groups believe WDEQ should treat exposure of humans to *E. coli* in an analogous manner. Therefore, we recommend that, in Table 10, WDEQ specify only one single-sample maximum for *E. coli* that equals 235 organisms per 100 ml – the level of protection proposed by WDEQ for high-use swimming areas.

Department Response: As outlined in the *Response to Comments Received During Written Comment Period and Water and Waste Advisory Board Meeting, June 13, 2024*, WDEQ-WQD considered adoption of the statistical threshold value of 410 cfu/100 mL *E. coli* included in EPA's Recreational Water Quality Criteria - 2012[3] and concluded that additional time is necessary to evaluate implications to Wyoming's Water Quality Monitoring, Assessment, TMDL, and Permitting Programs.

The single-sample maxima concentrations of *E.coli* within Table 10, including the use intensity descriptions, are derived directly from EPA's Ambient Water Quality Criteria for Bacteria - 1986[4]. *E. coli* is used as an indicator of the potential presence of waterborne pathogens. The use intensity categories represent the 75th, 82nd, 90th, and 95th confidence limits of the data used to derive the geometric mean value of 126 organisms per milliliter and were intended to guide decision makers in the event insufficient data was available to determine compliance with the geometric mean. In circumstances where less confidence of attainment was acceptable, as in areas with lower recreational use, a higher single-sample maximum value was deemed appropriate. Because the geometric mean of 126 organisms per 100 milliliters applies to surface waters whereas the single-sample maxima may be used to establish single-sample maximum effluent limitations for permitted discharges, Wyoming surface waters designated for full body contact recreation remain protected for this use regardless of the single-sample maximum concentration used.

PRBRC, WOC, POWJH: p. 1-36, Table 10:
a. We suggest hyphenating "Single sample" in the row header "Single Sample Maxima" and in footnote a, to be consistent with its hyphenation elsewhere.
b. We suggest changing "maxima" to "maximum" in the second sentence of footnote.
Department Response: WDEQ-WQD is proposing to hyphenate "single sample" when used with maxima or maximum throughout Table 10. WDEQ-WQD is proposing to change "maxima" to "maximum" in the second sentence of the footnote.

3.7 Section 23. Water Quality Criteria for Protection of Scenic Value Use.

PRBRC, WOC, POWJH: p. 1-36, line 1055, Section 23(b)(i): We suggest that "scenic value" be defined. The statement about scenic value on page 1-13 is not specifically a definition.
Department Response: WDEQ-WQD is not proposing additional changes to the definition of scenic value at Section 11(c)(ix). Section 11(c)(ix) describes that "Surface Waters of the State designated for scenic value are those where surface water quality shall support aesthetic uses of the water" whereby scenic value is defined as the "aesthetics uses of the water."

[3]United States Environmental Protection Agency. Recreational Water Quality Criteria. Office of Water 820-F-12-058. 2012. Accessed from: https://www.epa.gov/sites/default/files/2015-10/documents/rwqc2012.pdf
[4] United States Environmental Protection Agency. Ambient Water Quality Criteria for Bacteria – 1986. EPA 4405-84-002. Office of Water. January 1986. Accessed from: https://www.epa.gov/sites/default/files/2019-03/documents/ambient-wqc-bacteria-1986.pdf

3.8 Section 24. Water Quality Criteria for Protection of Terrestrial Wildlife Use.

PRBRC, WOC, POWJH: p. 1-36, line 1069, Section 24(b)(i): We suggest that "wildlife" be defined. The statement about wildlife on page 1-13 is not specifically a definition. Without specific guidance, wildlife might be interpretated variously as (a) all animals, (b) all vertebrate animals (game and non-game), (c) all game animals, or (d) other categories.
Department Response: WDEQ-WQD is proposing to modify the description of the terrestrial wildlife designated use at Section 11(c)(x) to clarify that terrestrial wildlife is "wild fauna."

4.0 Chapter 2 Comments and Responses

4.1. Section 4.

PRBRC, WOC, POWJH: p. 2-31, line 1261, Section 4(p)(i)(D): We suggest inserting "and inactive" after "active", because a substance that might be considered an inactive ingredient in a given pesticide formulation might still have the potential to impair humans and(or) aquatic organisms. Therefore, WDEQ should be notified of all substances in all pesticide (and other) formulations, to be able to better evaluate the potential of the formulation for causing adverse impacts.
Department Response: WDEQ-WQD is proposing to remove "active" in Section 4(p)i)(D) to ensure WDEQ-WQD receives information regarding all chemical ingredients.

PRBRC, WOC, POWJH: p. 2-4, line 163, Section 2(b)(ix)(F): We suggest changing "insure" to "ensure" in the last sentence of this paragraph.
Department Response: WDEQ-WQD is proposing to change "insure" to "ensure" in the last sentence of the paragraph in Section 2(b)(ix)(F).

Appendix A. Public Notices For Written Comment Period That Ended November 15, 2024.

A.1. October 15, 2024, Casper Star Tribune Proof of Publication.

*** Proof of Publication ***

Casper Star-Tribune
P.O. Box 80, Casper, WY 82602-0080, ph 307-266-0500

AFFIDAVIT OF PUBLICATION

STATE OF INDIANA)
COUNTY OF LAKE)

I, Robin Nelson, being duly sworn says that I am the Legal Clerk of Casper Star-Tribune, a division of Lee Publications, Inc. A newspaper published in CASPER, NATRONA COUNTY, WYOMING, who declares that the attached Notice was published in said newspaper on the following dates:

10/15/24

DEQ Water Quality Division
Gina Thompson/Cat Hardway
200 W. 17TH ST. FL 4TH
CHEYENNE WY 82002

ORDER NUMBER 93092

The Wyoming Department of Environmental Quality Water and Waste Advisory Board Meeting

The Wyoming Water and Waste Advisory Board (WWAB) will meet on December 12, 2024, at 9:00 a.m. virtually via Zoom and in person at the Herschler Building Conference Room W054, 122 W 25th St, Cheyenne, WY 82002, to continue consideration of revisions to Water Quality Rules, Chapter 1, Wyoming Surface Water Quality Standards; and Chapter 2, Permit Regulations for Discharges to Wyoming Surface Waters. The proposed Chapter 1 revisions (1) fulfill the federal requirements at 40 CFR § 131.20; (2) restructure and align requirements with state law and federal law, regulations, and guidance; (3) revise designated uses and remove the designated use classification system; and (4) provide minor updates to specific water quality criteria. The proposed Chapter 2 revisions (1) update references to the designated use classification system to reflect proposed revisions to Chapter 1; and (2) incorporate provisions related to fish toxicants, aquatic pesticides, and short-term sediment disturbances that the Water Quality Division proposes to move from Chapter 1 to Chapter 2. Interested parties may contact Gina Thompson at gina.thompson@wyo.gov or at (307) 777-7343 for information on how to join the meeting via telephone or Zoom. Individuals may contact Lindsay Patterson at (307) 777- 7158 for questions on revisions to the Water Quality Rules. Additional details are located at http://deq.wyoming.gov/shwd/wwab/ under the "Upcoming Meeting" tab or may be inspected at the mailing address below. Beginning October 15, 2024, and ending at 5:00 p.m. (MST) on November 15, 2024 , written comments may be submitted via mail to WDEQ/WQD, 200 West 17th St, Ste. 200, Cheyenne, WY, 82002; via fax to (307) 635-1784; or submitted through and accepted electronically at https://wq.wyomingdeq.commentinput.com/comment/search. **Para español, visite deq.wyoming.gov**. Americans with Disabilities Act: special assistance or alternative formats will be made available upon request for individuals with disabilities. Please contact Gina Thompson at the contact information above at least three (3) weeks advance notice prior to the meeting date for such requests.
Published: October 15, 2024
Legal No: 93092

SIGNATURE

Sworn and subscribed to before me this 15 day of
OCTOBER 2024

Sallie Gucwa

NOTARY PUBLIC SEAL INDIANA
SALLIE GUCWA
Notary Public, State of Indiana
Lake County
Commission Number NP0757174
My Commission Expires
June 23, 2032

Section: Legal Notices
Category: 940 Public Meetings
PUBLISHED ON: 10/15/2024

TOTAL AD COST:	158.52
FILED ON:	10/15/2024

A.2. October 15, 2024, WDEQ Listserv Notice.

Lindsay Patterson <lindsay.patterson@wyo.gov>

Water and Waste Advisory Board Meeting
1 message

Wyoming Department of Environmental Quality <WYODEQ@public.govdelivery.com> Tue, Oct 15, 2024 at 8:01 AM
To: lindsay.patterson@wyo.gov

Wyoming Department of Environmental Quality | view as a webpage

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

The Wyoming Department of Environmental Quality Water and Waste Advisory Board Meeting

The Wyoming Water and Waste Advisory Board (WWAB) will meet on December 12, 2024, at 9:00 a.m. virtually via Zoom and in person at the Herschler Building Conference Room W054, 122 W 25th St, Cheyenne, WY 82002, to continue consideration of revisions to Water Quality Rules, Chapter 1, Wyoming Surface Water Quality Standards; and Chapter 2, Permit Regulations for Discharges to Wyoming Surface Waters. The proposed Chapter 1 revisions (1) fulfill the federal requirements at 40 CFR § 131.20; (2) restructure and align requirements with state law and federal law, regulations, and guidance; (3) revise designated uses and remove the designated use classification system; and (4) provide minor updates to specific water quality criteria. The proposed Chapter 2 revisions (1) update references to the designated use classification system to reflect proposed revisions to Chapter 1; and (2) incorporate provisions related to fish toxicants, aquatic pesticides, and short-term sediment disturbances that the Water Quality Division proposes to move from Chapter 1 to Chapter 2. Interested parties may contact Gina Thompson at **gina.thompson@wyo.gov** or at (307) 777-7343 for information on how to join the meeting via telephone or Zoom. Individuals may contact Lindsay Patterson at (307) 777- 7158 for questions on revisions to the Water Quality Rules. Additional details are located at **http://deq.wyoming.gov/shwd/wwab/** under the "Upcoming Meeting" tab or may be inspected at the mailing address below. Beginning October 15, 2024, and ending at 5:00 p.m. (MST) on November 15, 2024 , written comments may be submitted via mail to WDEQ/WQD, 200 West 17th St, Ste. 200, Cheyenne, WY, 82002; via fax to (307) 635-1784; or submitted through and accepted electronically at **https://wq.wyomingdeq.commentinput.com/comment/search**. **Para español, visite deq.wyoming.gov.** *Americans with Disabilities Act: special assistance or alternative formats will be made available upon request for individuals with disabilities. Please contact Gina Thompson at the contact information above at least three (3) weeks advance notice prior to the meeting date for such requests.*

View in Español

Appendix B. Written Comments Received During the Comment Period Ending November 15, 2024.

B.1. Environmental Protection Agency Comment Letter

REGION 8
DENVER, CO 80202

Ref: 8WD-WQS

SENT VIA EMAIL and SUBMITTED VIA WEBSITE

Lindsay Patterson, Emerging Contaminants Coordinator
Wyoming Department of Environmental Quality
Lindsay.patterson@wyo.gov

Re: Proposed Changes to Wyoming's Water Quality Standards, Chapter 1

Dear Ms. Patterson:

This letter provides the U.S. Environmental Protection Agency Region 8 Water Quality Section's (EPA's) comments on Wyoming's Chapter 1, proposed water quality standards (WQS) revisions for the public comment period extending from October 15 to November 15, 2024. The Wyoming Department of Environmental Quality (WDEQ) held a public informational meeting regarding this most recent draft of proposed revisions on October 30, 2024. Wyoming's Water and Waste Advisory Board (WWAB) has scheduled a meeting regarding the proposed revisions for December 13, 2024.

The EPA intends our comments to help WDEQ achieve consistency with the requirements of the Clean Water Act (CWA) and its implementing regulations at 40 CFR Part 131. Our comments are preliminary and do not reflect the EPA's determination of approval or disapproval under CWA Section 303(c) or our final feedback. It is the EPA's understanding that WDEQ intends to review comments from the EPA, the public and the WWAB and consider additional revisions before going to the Environmental Quality Council for rulemaking. The EPA intends to review any future revisions.

As noted in our June 13, 2024 comments, the EPA commends WDEQ's efforts to improve the usability and clarity of Wyoming's WQS. We also commend and support WDEQ's progress toward meeting the triennial review requirement at 40 CFR § 131.20(a). We appreciate WDEQ's efforts to resolve outstanding WQS items that the EPA had not acted on previously and its revisions in response to several of our June 13, 2024 comments on the first public notice draft of the revised WQS. WDEQ is proposing revisions in this draft which address several of the EPA's June 13, 2024 comments, including those pertaining to:

- the definition of natural,
- a specific date for incorporation of the Colorado River Salinity Standards by reference,
- excluding the application of numeric criteria from low water levels in new Section 8,
- updates to new Sections 9 and 10 for better consistency with current Wyoming policies and CWA requirements and guidance related to mixing zones and dilution allowances,
- revising new Section 13(a)(ii)(C) for better consistency with 40 CFR § 131.12(a)(2),
- adding language to new Section 15(e) to clarify that narrative turbidity criteria still apply to the aquatic life uses, and
- maintaining the current selenium aquatic life criteria for Lower Murphy Creek.

Additionally, WDEQ is proposing to maintain high quality water (or Tier 2) antidegradation protections for all designated uses instead of narrowing those protections to water quality that is better than the criteria to protect designated uses for only aquatic life, fish consumption, recreation, and terrestrial wildlife. The EPA supports WDEQ's approach to maintaining these protections.

The EPA has reviewed the current version of the WQS and has the following comments.

- **Exceedance frequency for dissolved oxygen (DO) instantaneous minimum criteria (Section 16(g)).** The new text in Section 16(g) says "…pollution shall not result in dissolved oxygen concentrations that are less than the concentrations in Table 3 more than once every three years." We understand from WDEQ's most recent Response to Comments document that the allowable exceedance frequency (once in three years) does not apply to the instantaneous minima criteria and only applies to the other DO criteria (pp. 16-17); however, this is not clear from the text at new Section 16(g). Consider adding text to clarify that the exceedance frequency does not apply to the instantaneous minima at either new Section 16(g) or footnote d to new Table 3. For example, Section 16(g) could read "…pollution shall not result in dissolved oxygen concentrations that are less than the concentrations in Table 3 more than once every three years unless otherwise noted."

- **Narrative aquatic life criteria (Section 16).** Wyoming's current WQS include narrative aquatic life criteria for Class 2A, 2D, 3 and 4 waters for several specific parameters (i.e., ammonia, dissolved oxygen, temperature) in addition to the current, more general narrative criteria. General narrative criteria that are not pollutant-specific are proposed at new Section 16(a) for all waters designated for aquatic life. Based on conversation with WDEQ and the *Supplementary Guidance to Statement of Principal Reasons* that discusses the narrative criteria in new Section 16(a), the EPA understands that Wyoming is not eliminating the pollutant-specific narrative criteria but rather clarifying that those narrative criteria apply to all pollutants (pp. 40-41). We are providing this comment to ensure our understanding is correct.

We hope these comments are helpful as you continue to consider revisions to Wyoming's WQS. Please contact Maggie Pierce of my staff at 303-312-6550 or pierce.maggie@epa.gov with any questions or if you would like to discuss these comments.

Sincerely,

DANA ERICKSON Digitally signed by DANA ERICKSON Date: 2024.11.12 14:38:54 -07'00'

Dana Erickson, Supervisor
Water Quality Section

cc: David Waterstreet, Watershed Section Supervisor, WDEQ
Jennifer Zygmunt, Water Quality Administrator, WDEQ

B.2. Environmental Protection Agency Additional Submission

EPA

It appears that the conversion factor (CF) for the chronic selenium aquatic life criterion at current footnote 10 to Appendix B may have inadvertently not been carried over into Wyoming's proposed water quality standards revisions.

- On September 29, 2008, the EPA approved the addition of a factor to convert the chronic aquatic life criterion for selenium from the total recoverable to the dissolved fraction (see attached).
- In its 2013 triennial revisions, Wyoming adopted an additional conversion factor at footnote 10 to convert the acute aquatic life criterion for selenium from the total recoverable to the dissolved fraction; however, the EPA did not act on that addition in our August 9, 2016 action letter on the 2013 triennial (also attached).
- Based on those action letters and earlier versions of Wyoming WQS, it seems that the CF for the chronic selenium criterion is in effect for Clean Water Act purposes but the CF for the acute selenium criterion is not. Consequently, the EPA recommends that Wyoming update its proposed WQS to reflect the chronic selenium CF and acceptable dissolved criterion currently at footnote 10. (Note: Current footnote 10 indicates that the selenium aquatic life criteria are for the total recoverable fraction of the metal in the water column and the current draft of Wyoming's revised WQS already note this within new Table 7.) A footnote to the chronic selenium criterion could read:

"It is scientifically acceptable to use a conversion factor (0.922 for the chronic) to convert this number to a value that is expressed in terms of a dissolved metal. Using these conversion factors, the aquatic life chronic value for selenium is 4.61 µg/L as a dissolved metal."

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

SEP 29 2008

Ref: 8EPR-EP

Mr. Dennis M. Boal, Chair
Wyoming Environmental Quality Council
Herschler Building, Room 1714
122 W. 25th Street
Cheyenne, Wyoming 82002

Subject: EPA Action on Revisions to the *Water Quality Rules and Regulations - Chapter 1, Wyoming Surface Water Quality Standards*

Dear Mr. Boal:

The purpose of this letter is to notify you of the status of the U.S. Environmental Protection Agency Region 8 (EPA) review of the recent revisions to the *Water Quality Rules and Regulations - Chapter 1, Wyoming Surface Water Quality Standards*. These revisions were adopted by the Wyoming Environmental Quality Council (Council) on February 16, 2007 and submitted to EPA for review with a letter dated July 27, 2007 from John Corra, Director of the Department of Environmental Quality (DEQ). The submittal package included a statement of principal reasons and the adopted version of Chapter 1, Table A and Table B, and Implementation Policies. However, the submittal package was not complete until September 19, 2007 when EPA received certification from the Attorney General that the regulations were duly adopted pursuant to State law. Receipt of the Attorney General certification on September 19, 2007 initiated EPA's review pursuant to Section 303(c) of the Clean Water Act (CWA or the Act) and the implementing federal water quality standards regulation (40 CFR Part 131).

EPA's review of these revisions is complete, with the exception of the following new provisions of Chapter 1, which relate to the implementation of requirements for effluent dependent waters designated for the 2D and 3D use classifications:

- Section 2(b)(xiii), the definition of "effluent dependent water;"
- Section 2(b)(xxxviii), the definition of "net environmental benefit;"
- Section 4(b)(v), the Class 2D use subcategory;
- Section 4(c)(iv), the Class 3D use subcategory;
- The provisions of Sections 4(e), 18, 22(b), and 24 that relate specifically to the Class 2D and/or 3D use classifications;
- The human health criteria provisions for Class 2D uses in Section 18;
- Revisions to Sections 25(d), 33(b), and 34(b);

- Section 36, entitled "Effluent Dependent Criteria"; and
- The provisions of Appendix A(b)(ii)(3) that relate specifically to the Class 2D and 3D use classifications.

EPA's review of these new provisions, and the supporting information outlining the implementation of these provisions provided in the document, *Implementation Policies for Antidegradation, Mixing Zones, Turbidity, Use Attainability Analysis*, is nearing completion. We estimate that our review of the provisions which relate to the requirements for implementation of the Class 2D and 3D use classifications will be complete in 30 days. Therefore, the actions EPA is taking today on the remainder of the revisions to Wyoming water quality standards do not address the above provisions.

The Region commends the Environmental Quality Council and the Department of Environmental Quality for adopting significant improvements to the State's water quality standards. The principal revisions include:

- a change in the primary bacterial indicator organism, from fecal coliform to *E. coli*, for protection of recreational uses and the creation of subcategories of recreational uses;
- updates to the numeric criteria in Appendix B to be consistent with EPA's 304(a) recommendations;
- development of site-specific criteria for chloride and selenium; and
- modifications to the statewide numeric criteria for chloride and aluminum.

Clean Water Act Review Requirements

The Clean Water Act, Section 303(c)(2), requires States and authorized Indian Tribes[1] to submit new or revised water quality standards to EPA for review. EPA is to review and approve or disapprove the submitted standards. Pursuant to CWA Section 303(c)(3), if EPA determines that any standard is not consistent with the applicable requirements of the Act, the Agency shall, not later than the ninetieth day after the date of submission, notify the State or authorized Tribe and specify the changes to meet the requirements. If such changes are not adopted by the State or authorized Tribe within ninety days after the date of notification, EPA shall promulgate the needed standard pursuant to CWA Section 303(c)(4).[2] The Region's goal has been, and will continue to be, to work closely with States and authorized Tribes throughout the standards revision process as a means to avoid the need for such disapproval and promulgation actions.

---

[1] CWA Section 518(e) specifically authorizes EPA to treat Indian tribes as States for purposes of CWA Section 303.

[2] Although the provisions of CWA Section 303(c) state that EPA shall promulgate standards that replace disapproved state-adopted standards, pursuant to EPA's Alaska Rule (40 CFR § 131.21(c)), new or revised state standards submitted to EPA after May 30, 2000 are not effective for CWA purposes until approved by EPA. See 65 FR 24641-24653. Where EPA disapproves a state's action to revise a CWA-effective standard which the Agency has determined is consistent with all CWA requirements, no further federal action is required under CWA Section 303(c) authorities.

Today's Action

I am pleased to inform you that today, with certain exceptions, EPA is approving most revisions to the *Water Quality Rules and Regulations - Chapter 1, Wyoming Surface Water Quality Standards.* Other than the provisions listed above that relate to the State's implementation of the 2D and 3D use classifications, the exceptions are provisions that: (1) change the designated use of a large number of waters statewide from primary contact recreation to secondary contact recreation without the required Use Attainability Analysis (UAA); (2) allow for temporary or permanent variances from the new *E. coli* standard outside the water quality standards-setting process; (3) include typographical errors in the thallium and toxaphene human health criteria that make them less stringent that EPA's recommended 304(a) criteria; and (4) EPA has determined are not water quality standards. The enclosure contains the detailed rationale for today's action.

Endangered Species Act Requirements

It is important to note that EPA's approval of Wyoming's water quality standards is considered a federal action which may be subject to the Section 7(a)(2) consultation requirements of the Endangered Species Act (ESA).[3] Section 7(a)(2) of the ESA states that "each federal agency … shall …insure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined to be critical…"

EPA's approval of the water quality standards revisions, therefore, may be subject to the results of consultation with the U.S. Fish and Wildlife Service pursuant to Section 7(a)(2) of the ESA. Nevertheless, EPA also has a CWA obligation, as a separate matter, to complete its water quality standards action. Therefore, in approving the State's water quality standards today, EPA is completing its CWA Section 303(c) responsibilities. However, should the consultation process with the U.S. Fish and Wildlife Service identify information that supports a conclusion that one or more of these revisions is likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat, EPA will revisit and amend its approval decision for those new or revised water quality standards.

New and Revised Water Quality Standards

The new or revised provisions fall into one of the following categories: (1) standards approved without condition; (2) standards approved subject to ESA consultation; (3) disapproved standards; and (4) provisions for which EPA is taking no action.

[3] Where EPA concludes that its approval will have no effect on listed endangered or threatened species, or is otherwise not subject to ESA consultation, EPA can issue an unconditional approval.

Standards Approved Without Condition

- Definitions (Section 2(b))
- Class 4C Waters (Section 4(d)(iii))
- Class 2C Human Health Criteria (Section 18)
- Change to *E. coli* as the bacterial indicator for recreational uses (Section 27(a) and (c))
- Creation of secondary contact recreational use (Section 27(b) and Section 4(e))
- Seasonal recreational uses (Section 27(b))
- Authority to establish site-specific criteria (Sections 33(c))
- Surface Water Classifications (Appendix A(b)(ii)(3)(A))
- Human Health Priority Pollutants (Appendix B)
- Human Health Non-Priority Pollutants (Appendix B)
- Site-Specific Criteria (Appendix B)

Standards Approved Subject to ESA Consultation

- Flow Conditions (Section 11(a)(i))
- Ammonia (Section 21(a)(i))
- Clarification of which Classes of waters are subject to the Appendix B aquatic life criteria (Section 21(b))
- Radioactive Material (Section 22(b))
- Dissolved Oxygen (Section 24)
- Aquatic Life Priority Pollutants (Appendix B)
- Aquatic Life Non-Priority Pollutants (Appendix B)
- Ammonia Table (Appendix C)
- Cadmium Hardness Equations (Appendix F)
- Hardness Cap Policy (Appendix F)

Disapproved Standards

- Elements of Section 27(a)
- Section 27(d)
- Thallium and Toxaphene human health criteria

EPA is disapproving four of the State's revised provisions: (1) elements of Section 27(a) that change the designated use of a large number of waters statewide from primary contact recreation to secondary contact recreation without the required Use Attainability Analysis (UAA); (2) Section 27(d) which allows temporary or permanent variances from the new *E. coli* standard outside the water quality standards-setting process; and (3 and 4) typographical errors in the thallium and toxaphene human health criteria listed in Appendix B of Chapter 1, "Water Quality Criteria," that make these criteria less stringent than EPA's recommended 304(a) criteria.

In anticipation of this disapproval action, EPA and DEQ have been in discussion on the general matter of available options for addressing and resolving the UAA and variance issues.

The options discussed to date are identified in the enclosure of this letter. The Region will continue to work with the State to explore options that meet the State's needs and are consistent with the Act.

Pursuant to 40 CFR § 131.21(c), new or revised state standards submitted to EPA after May 30, 2000 are not effective for CWA purposes until approved by EPA.[4] Therefore, disapproval does not change applicable standards and is not subject to ESA consultation. For a more detailed discussion of the options available to the State to address EPA's disapproval of the four revised standards, please refer to the discussion of "Disapproved Standards" in the enclosure to this letter, which also includes information regarding the potential for EPA promulgation of replacement federal standards for each disapproved standard.

Provisions For Which EPA Is Taking No Action

Other than the provisions listed above that relate to the State's implementation of the 2D and 3D use classifications, there are several provisions that EPA is not acting on today because EPA has determined they are not water quality standards requiring EPA review and approval under CWA Section 303(c). These provisions are listed in the enclosure and include minor revisions such as correction of references, addition of references, and deletion of duplicate provisions.

Indian Country

The water quality standards approvals in today's letter apply only to water bodies in the State of Wyoming, and do not apply to waters that are within Indian country, as defined in 18 U.S.C. Section 1151. "Indian country" also includes any land held in trust by the United States for an Indian tribe and any other areas defined as "Indian country" within the meaning of 18 U.S.C. 1151. Today's letter is not intended as an action to approve or disapprove water quality standards applying to waters within Indian country. EPA, or authorized Indian tribes, as appropriate, will retain responsibilities for water quality standards for waters within Indian country.

Conclusion

EPA Region 8 commends the Council and the Department for the significant improvements to Wyoming's water quality standards. I will keep you apprised on our progress in completing the remainder of our review. If you have questions concerning this letter, the most knowledgeable person on my staff is Fritz Wagener, who can be reached at 303-312-6219.

[4] See EPA's Alaska Rule (65 FR 24641-24653).

Sincerely,

Carol L. Campbell
Assistant Regional Administrator
Office of Ecosystems Protection and Remediation

Enclosure

cc: John Corra, Director, Wyoming Department of Environmental Quality
John Wagner, Administrator, Water Quality Division, Wyoming Department of Environmental Quality
Brian Kelly, Field Supervisor, Wyoming Field Office, U.S. Fish and Wildlife Service
Amy Newman, Office of Science and Technology, EPA Headquarters

ENCLOSURE

RATIONALE FOR EPA'S ACTION ON THE REVISIONS TO WYOMING'S WATER QUALITY STANDARDS

This enclosure provides the detailed rationale for today's EPA action. The discussion below is organized into six major sections, as follows:

Section I: New/revised standards approved without condition.
Section II: New/revised standards approved subject to Endangered Species Act consultation.
Section III: New/revised standards that are disapproved.
Section IV: Provisions for which EPA is taking no action.

The new and revised standards that are the subject of EPA's actions in this document do not include the following new and revised provisions of Chapter 1, which relate to the implementation of requirements for effluent dependent waters designated for the 2D and 3D use classifications:

- Section 2(b)(xiii), the definition of "effluent dependent water";
- Section 2(b)(xxxviii), the definition of "net environmental benefit";
- Section 4(b)(v), the Class 2D use subcategory;
- Section 4(c)(iv), the Class 3D use subcategory;
- The provisions of Sections 4(e), 18, 22(b), and 24 that relate specifically to the Class 2D and/or 3D use classifications;
- The human health criteria provisions for Class 2D uses in Section 18;
- Revisions to Sections 25(d), 33(b), and 34(b);
- Section 36, entitled "Effluent Dependent Criteria"; and
- The provisions of Appendix A(b)(ii)(3) that relate specifically to the Class 2D and 3D use classifications.

As described in EPA's letter to the State, we estimate that the Agency will complete our review of these provisions under CWA Section 303(c) authorities within 30 days.

I - STANDARDS APPROVED WITHOUT CONDITION

EPA has concluded that its approval of the following revisions will have no effect on listed or proposed endangered or threatened species, or is otherwise not subject to ESA consultation.

Definitions (Section 2(b))

New definitions were added for "ambient-based criteria," "E. coli," "effluent dominated water," and "primary contact recreation." These definitions provide clarity to the new rules regarding use classifications. EPA concludes that the revisions to Section 2(b) are consistent with Clean Water Act (CWA) Section 303(c) and the implementing federal water quality standards regulation (40 CFR Part 131). Accordingly, the revisions are approved without condition.

Class 4C Waters (Section 4(d)(iii))

The description of Class 4C waters was changed to apply only to isolated waters. The Region notes, however, that in this submission Wyoming has not placed any additional waters into the revised Class 4C. Under 40 CFR Section 131.10(c), states have the discretion to establish subcategories of a use. EPA recognizes that for purposes of the CWA, and as necessary, a case-by-case determination can be made by EPA as to whether particular waters are "waters of the United States."[1] EPA concludes that the revisions to Section 4(d)(iii) are consistent with CWA Section 303(c) and the implementing federal water quality standards regulation at 40 CFR Section 131.10. The revisions are approved without condition.

Class 2C Human Health Criteria (Section 18)

This section was revised to clarify that the "Fish Only" human health criteria apply to Class 2C waters. This change is appropriate and will better protect human health consistent with the requirement to assign criteria sufficient to protect designated uses. EPA concludes that the revisions to Section 18 are consistent with CWA Section 303(c) and the implementing federal water quality standards regulation 40 CFR Section 131.11. The revisions are approved without condition.

Change to *E. coli* as the Bacterial Indicator for Recreational Uses (Section 27(a) - (c))

Section 27(a) replaces fecal coliform with *E. coli* as the bacterial indicator for recreation uses and provides, in part, that:

> *In all waters designated for primary contact recreation, during the summer recreation season (May 1 through September 30), concentrations of E. coli bacteria shall not exceed a geometric mean of 126 organisms per 100 milliliters based on a minimum of not less than 5 samples obtained during separate 24 hour periods for any 30-day period…During the period October 1 through April 30, all waters are protected for secondary contact recreation only.*

Section 27(b) provides that:

> *In all waters designated for secondary contact recreation, and in waters designated for primary contact recreation during the winter recreation season (October 1 through April 30), concentrations of E. coli bacteria shall not exceed a geometric mean of 630 organisms per 100 milliliters based on a minimum of not less than 5 samples obtained during separate 24 hour periods for any 30-day period.*

[1] See *Clean Water Act Jurisdiction Following the U. S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States* (72 FR 31824).

EPA strongly supported Wyoming's proposal to change from fecal coliform to *E. coli* as the bacterial indicator for protection of recreational uses. Since 1986, EPA's recommendation has been that, for fresh water, *E. coli* is a better indicator than fecal coliform for use in determining the potential risk of contracting acute gastrointestinal illness from incidental ingestion of contaminated water during recreational activities.[2] Importantly, EPA's freshwater epidemiological studies found *E. coli* to be more strongly correlated with increased risk of illness, based on comparison of illness rates for swimmer and non-swimmer study participants. The 30-day geometric mean *E. coli* criterion adopted by Wyoming for primary contact recreation, 126 organisms per 100 milliliters, is taken from EPA's CWA Section 304(a) criteria guidance document.[3]

The 30-day geometric mean *E. coli* criterion adopted by Wyoming for secondary contact recreation, 630 organisms per 100 milliliters, is consistent with levels of protection that have been approved by EPA in other states. For example, the Region approved the geometric mean *E. coli* criterion of 630 organisms per 100 ml adopted by the State of Colorado for protection of secondary contact uses. The primary contact criterion (126 organisms per 100 ml) is multiplied by a factor of 5 to calculate the secondary contact criterion. Similarly, States and authorized tribes with fecal coliform criteria generally have adopted a secondary contact water quality criterion of 1000 organisms per 100 ml as a geometric mean, which is again five times the geometric mean value typically used to protect primary contact recreation.

In Section 27(c), numeric single-sample maximum (SSM) criteria were adopted for protection of primary contact recreation based on frequency of use (i.e., high, moderate, light or infrequent use). The 2004 Beach Rule includes a discussion regarding the appropriate use of SSM criteria and states that EPA expects the SSM values to be used for making beach notification and closure decisions, but that use of the SSM for other purposes of the Act (e.g., CWA Section 303(d) lists) is a matter of state discretion.[4] The 1986 bacteria criteria document includes a table of four SSM values that are appropriate for different levels of beach usage: "designated bathing beach," "moderate use for bathing," "light use for bathing," and "infrequent use for bathing." The criteria document describes "designated bathing beach," but does not describe the other levels of use. The frequency of use categories in Section 27(c) are consistent with EPA's recommendations[5] and their proposed application, based on frequency of use, is within the State's risk management discretion.

EPA concludes that, with the exception of the disapproved revisions discussed in Section V, the revisions to Section 27(a), 27(b), and 27(c) are consistent with CWA Section 303(c) and the implementing federal water quality standards regulation (40 CFR Section 131.11). Accordingly, these revisions are approved without condition.

---

[2] See discussion in the Beach Act Final Rule, 69 FR 67220, November 16, 2004.
[3] *Ambient Water Quality Criteria for Bacteria – 1986*, U.S. EPA, January 1986.
[4] See discussion in the Beach Act Final Rule, 69 FR 67224-67225, November 16, 2004.
[5] See discussion in the Beach Act Final Rule, 69 FR 67720-67721, November 16, 2004.

Creation of Secondary Contact Recreational Use (Section 27(b) and Section 4(e))

The adopted revisions create a new secondary contact recreational use. To be consistent, Section 4 descriptions for Class 4 waters were revised to remove the primary contact recreation presumption to reflect that waters in these Classes may either be primary or secondary contact. The creation of a secondary contact recreational use is consistent with EPA guidance[6] and 40 CFR Section 131.10(c) which allows the creation of use subcategories. Therefore, EPA is approving the secondary contact recreation use itself. However, EPA is disapproving elements of Section 27(a) that designate a large number of State waters as secondary contact recreation without UAAs (see discussion in Section V).

In the future, where there is interest in evaluating what recreation use is most appropriate, a UAA should be completed. As discussed in Section 34, where the need for a recreation use downgrade is identified, a public notice and opportunity to comment must be provided, and the revised classification or use designation must be submitted to EPA for approval/disapproval. The Region notes that, pursuant to 40 CFR Section 131.21(c), such revisions would become effective for CWA purposes only if EPA approves the revision.

EPA concludes that Section 27(b) and Section 4 are consistent with CWA Section 303(c) and the implementing federal water quality standards regulation (40 CFR Section 131.10(c)). The revisions are approved without condition.

Seasonal Recreational Uses (Section 27(b))

Section 27(b) also states that during the winter season (October 1 through April 30), all waters are protected for secondary contact only. Seasonal recreational uses are acceptable in States such as Wyoming where ambient air and water temperatures in the winter months make primary contact recreation unlikely. The Act and EPA's implementing regulation provide for State flexibility in the designation of recreation uses, including subcategories of uses and seasonal use classifications. Seasonal uses recognize the practical reality that wintertime conditions are not conducive to primary contact activities and provide for appropriate levels of protection.[7] EPA's water quality standards regulation allows for seasonal uses, provided the criteria adopted to protect such uses do not preclude attainment of more protective uses in another season (see 40 CFR Section 131.10(f)). EPA concludes that the adopted seasonal uses in Section 27(b) would not preclude attainment of the primary contact recreational use outside the winter season and are consistent with CWA Section 303(c) and the implementing federal water quality standards regulation (40 CFR Section 131.10). Accordingly, the revisions are approved without condition.

Authority to Establish Site-Specific Criteria (Section 33(c))

The State revised Section 33(c) to state that the Water Quality Administrator may recommend site-specific criteria to the Environmental Quality Council "if it can be demonstrated through a Use Attainability Analysis (UAA) that such uses are existing uses or may be attained with the

[6] See discussion in Section 2.1.3 of EPA's *Water Quality Standards Handbook.*
[7] See discussion in Sections 2.3 and 2.6 of EPA's *Water Quality Standards Handbook.*

imposition of more stringent controls or management practices." The previously adopted standards, in Section 33(b) of Chapter 1, recognized the Water Quality Administrator's authority to recommend site specific criteria: "The Water Quality Administrator may ... make a recommendation to the Environmental Quality Council to establish sub-categories of a use, or establish site-specific criteria if it can be demonstrated through a Use Attainability Analysis (UAA) that the original classification and/or designated use or water quality criteria are not feasible ..."

The revision to Section 33(c) now makes the two provisions the same as they both address sub-categories of a use and site-specific criteria. This revision is consistent with the provisions of CWA Section 303(c) and the implementing federal water quality standards regulation (40 CFR Sections 131.10 and 131.11). The revisions are approved without condition.

Surface Water Classifications (Appendix A(b)(ii)(3))

This section of Appendix A was revised to reflect the changes to Class 4C in Section 4. Under 40 CFR Section 131.10(c), states have the discretion to establish designated use subcategories. Wyoming has exercised this discretion in revising Class 4C. EPA concludes that the revisions to Appendix A(b)(ii)(3) are consistent with CWA Section 303(c) and the implementing federal water quality standards regulation (40 CFR Section 131.10). The revisions are approved without condition.

Human Health Criteria for Priority Pollutants (Appendix B)

The adopted revisions to Appendix B include many updated human health criteria for priority pollutants. These revisions were adopted consistent with EPA's CWA Section 304(a) recommendations. The State adopted a 10 µg/L health-based criterion for arsenic, based on the Safe Drinking Water Act Maximum Contaminant Level (MCL). Footnote 3 was revised to indicate that although arsenic is a carcinogen, the criterion is not based on a one in one million cancer risk. Finally, the State also adopted MCL-based human health criteria for chlorobenzene and lindane. The Region recommended adoption of the MCLs for chlorobenzene and lindane because they are more stringent than the CWA § 304(a) "water & organisms" criterion. In addition, EPA's longstanding policy is that State adoption of drinking water MCLs is acceptable for the protection of water supply uses.[8]

With the exception of the human health criteria revisions for thallium and toxaphene, EPA concludes that these revisions to Appendix B are consistent with the requirement to adopt criteria sufficient to protect designated uses (40 CFR Section 131.11) and the criteria adoption requirements for priority toxic pollutants (CWA § 303(c)(2)(B)). With the exception of the revisions for thallium and toxaphene, the revisions are approved without condition. See the discussion in Section V below addressing the revisions for thallium and toxaphene.

[8] See discussion in Section 3.2.4 of EPA's *Water Quality Standards Handbook.*

Human Health Criteria for Non-Priority Pollutants (Appendix B)

The adopted revisions to Appendix B include new/revised human health criteria for 7 non-priority pollutants to be consistent with EPA's current CWA Section 304(a) recommendations. In addition, the criterion for fluoride was revised to be more stringent than the current Safe Drinking Water Act maximum contaminant level (MCL). EPA concludes that these revisions to Appendix B are consistent with the requirement to adopt criteria sufficient to protect designated uses (40 CFR Section 131.11). Accordingly, the revisions are approved without condition.

Site-Specific Criteria (Appendix B)

At its February 16, 2007 hearing, the Council adopted site-specific aquatic life criteria for Cottonwood Creek, Poison Spider Creek, Salt Creek, Meadow Creek and a segment of the Powder River below Salt Creek. For Cottonwood Creek, site-specific criteria were adopted for both chloride and selenium. For the other waterbodies, site-specific criteria for chloride were adopted. In each case, the site-specific criteria were supported with information in a UAA. A principal conclusion of each UAA is that, based on site-specific biological information, the designated aquatic life uses are being attained, even though the existing ambient concentrations for the parameters in question exceed the predictive statewide standards in Appendix B of Chapter 1. Elsewhere, EPA has accepted this approach where it can be demonstrated that the ambient conditions are fully supportive of the existing and expected biological community for the waterbody in question. Although each of the UAAs make a number of additional claims to support the appropriateness of the site-specific standards, EPA's review focused on the biological information and arguments supporting the findings that the designated aquatic life uses were not adversely affected or limited by the ambient conditions that formed the basis for the site-specific standards.

Cottonwood Creek (near Hamilton Dome in the Big Horn Drainage)

The new site-specific aquatic life criterion for chloride is 860 mg/L as an instantaneous maximum value, not to be exceeded at any time, and the new site-specific aquatic life criterion for selenium is 43 µg/L as an instantaneous maximum value, not to be exceeded at any time.

The new site-specific aquatic life standards for chloride and selenium are based on information provided in a UAA entitled *Merit Energy Company Use Attainability Analysis to Accompany Petition to Change Use Criteria on Cottonwood Creek Near Hamilton Dome, Hot Springs County, Wyoming as Provided Under Wyoming Surface Water Quality Standards, Chapter 1, February 14, 2003.* The UAA was prepared by States West Water Resources Corporation, Western EcoSystems Technology, Inc. and Blankenship Consulting for Merit Energy Company. The analysis was triggered when Wyoming's reclassification of Cottonwood Creek, from Class 4 to Class 2C, in 2001, resulted in more stringent effluent limits for Merit Energy Company's produced water discharges to unnamed tributaries to Cottonwood Creek. The Company considered compliance with the statewide chloride standards, which accompanied the upgrade to Class 2C, to be cost prohibitive and prepared the UAA to support its application for alternative, site-specific chloride and selenium standards which were adopted by the Council.

A principal conclusion of the UAA is that, based on site-specific biological information, a review of toxicity information in the literature and information in EPA's draft national selenium criteria document, the designated aquatic life use in Cottonwood Creek is being attained, even though the existing ambient chloride and selenium concentrations exceed the predictive statewide standards in Appendix B of Chapter 1. Further, the UAA argues that: (1) if the discharges of produced water ceased, the result would be detrimental to existing uses of these streams and would cause more environmental damage than leaving the discharges in place; and (2) closure of the field would cause significant economic distress to the local economy, resulting in substantial and widespread economic and social impact.

The conclusions reached in the UAA are based on chemical, physical, biological, and economic site-specific evaluations. EPA's review focused on the biological information presented in the UAA and the premise that existing chloride and selenium levels above the statewide standards were not adversely affecting or limiting the aquatic community in Cottonwood Creek. To evaluate this premise, the contractors for Merit Energy Company used existing aquatic invertebrate data (from Wyoming Department of Environmental Quality (DEQ)) and fishery data (from Wyoming Game and Fish Department). These data were supplemented with other data collected from the Cottonwood Creek drainage to evaluate existing selenium levels in resident fish and aquatic invertebrates. In addition, the UAA used toxicity information in the literature and in EPA's draft Selenium Criteria Document, March 2002 (since updated in December 2004) to support its conclusions that the aquatic life use if fully supported.

Chloride

Benthic macroinvertebrate data from the Wyoming DEQ were available for three stations along Cottonwood Creek, downstream of the Hamilton Dome discharge. The UAA concludes that these data indicate that Cottonwood Creek supports a diverse and abundant macroinvertebrate community. The number of invertebrate species ranged from 29 to 35 and included significant percentages of sensitive invertebrate taxa (such as Ephemeroptera, Plecoptera, and Trichoptera, often referred to as EPT taxa)(average 42%). The UAA also notes that ponds, supported by produced water, were also found to have diverse aquatic invertebrate communities when sampled as part of the selenium investigation.

The UAA notes that the Wyoming Game and Fish Department manages Cottonwood Creek as a unique species fishery, with emphasis on management of nongame species and Yellowstone cutthroat trout. Fishery data from sampling stations downstream of the Hamilton Dome discharge area indicate the Creek supports a diverse assemblage of fish, including several species that, based on literature toxicity information, are sensitive to chloride (e.g., rainbow trout and fathead minnow). The UAA concludes the aquatic invertebrate and fish abundance and composition data support a finding that the existing levels of chloride are not adversely affecting the aquatic community in Cottonwood Creek.

Although EPA does not agree with all of the statements made in the UAA, the biological data do support the UAA's finding that chloride is not a limiting stressor at this site and the aquatic

community in Cottonwood Creek downstream of the Hamilton Dome discharge area is not being adversely affected or limited by the existing chloride concentrations, even though those concentrations exceed the statewide chronic standard. The site-specific standard for chloride, 860 mg/L, is the same as the statewide acute chloride standard, and therefore in this case, the effect of this UAA-based change is the removal of the 230 mg/L statewide chronic standard applicable to Class 2C waters. The 860 mg/L standard will be implemented as an instantaneous maximum value, not to be exceeded.

Based on the biological information in the UAA, EPA concludes that the new site-specific chloride standard for Cottonwood Creek is consistent with the requirements of the CWA and EPA's implementing regulation at 40 CFR Section 131.11. Accordingly, the site-specific chloride standard for Cottonwood Creek is approved without condition.

Selenium

To address the selenium issue, the UAA evaluated: (1) selenium levels in Cottonwood Creek; (2) selenium levels in areas where selenium may have been concentrated due to evaporation; (3) selenium levels in fish tissue for comparison to EPA's draft whole-body fish tissue value of 7.91 µg/g dry weight; and (4) selenium levels in aquatic invertebrates and fish to assess potential impact to migratory birds. Because this site-specific selenium standard amends the statewide, chronic aquatic life criterion and because EPA currently has no recommended selenium criterion for wildlife protection, EPA's review of this site-specific criterion focused on the fish tissue information in the UAA.

The approach taken in the UAA is that, if the whole-body tissue values in fish collected from Cottonwood Creek are below EPA's draft whole-body fish tissue value, it would be appropriate to conclude the elevated water column concentrations in Cottonwood Creek are acceptable, selenium is not a limiting stressor at this site and the aquatic community is not being adversely affected or limited by the existing selenium concentrations, even though those concentrations exceed the statewide chronic standard. Although this is a reasonable approach for now, there is a caution. EPA's draft selenium criterion is not a final Agency decision on an appropriate tissue level for fish. If the tissue value in EPA's final criteria document is lower than the value in the draft and lower than levels found in fish collected from Cottonwood Creek, it will be necessary to revisit the site-specific selenium value and make the appropriate revision.

In its comments on this site-specific selenium standard for Cottonwood Creek, the U.S. Fish and Wildlife Service noted that the Service has commented negatively on EPA's draft criterion. The Service's concerns, as expressed to EPA Headquarters, include: EPA's use of an EC20 in calculating the fish tissue threshold; their view that the 7.91 µg/g value would have unacceptable effects on aquatic and aquatic-dependent organisms; and their view that a lower tissue value, within the 4 – 6 µg/g range, is supported by the broader scientific literature. EPA is working on a final CWA Section 304(a) Criteria Document and will consider the Service's and others' comments in deriving a final tissue value. This point is raised here to caution that a final EPA tissue-based selenium criterion may trigger the need to reevaluate this site-specific standard.

The fish tissue data from Cottonwood Creek showed the whole-body selenium concentrations in fish less than three inches ranged from 4.69 to 5.49 µg/g dry weight, with an average of 5.15 µg/g dry weight. For fish greater than three inches, the whole-body selenium concentrations ranged from 4.76 µg/g dry weight to 7.77 µg/g dry weight, with an average of 6.7 µg/g dry weight. All of the values were below EPA's draft whole-body tissue value of 7.91 µg/g dry weight. Whole-body dry weight values for invertebrates were also below EPA's draft threshold criterion. Based on this, the UAA concludes the ambient selenium concentrations are not adversely affecting the aquatic community in Cottonwood Creek.

Although EPA does not agree with all of the statements made in the UAA, the selenium tissue data along with the biological community data do support the UAA's finding that selenium is not a limiting stressor at this site and the aquatic community in Cottonwood Creek downstream of the Hamilton Dome discharge area is not being adversely affected or limited by the existing selenium concentrations, even though those concentrations exceed the statewide chronic standard. Because of the statistical approach used to calculate this ambient-based, site-specific standard, it will be implemented as an instantaneous maximum value, not to be exceeded. This was an important consideration in our review of this standard.

Based on the biological information in the UAA, EPA concludes that the new site-specific selenium standard for Cottonwood Creek is consistent with the requirements of the CWA and EPA's implementing regulation at 40 CFR Section 131.11. Accordingly, the site-specific selenium standard for Cottonwood Creek is approved without condition.

Poison Spider Creek (North Platte Drainage)

The new site-specific chloride standard for Poison Spider Creek is 531 mg/L as an instantaneous maximum value, not to be exceeded at any time.

The new site-specific standard is based on information provided in a UAA entitled *Use Attainability Analysis of Poison Spider Creek Downstream of South Casper Creek Field Discharge, February 14, 2005*. The UAA was prepared by Gene R. George and Associates, HAF, Inc., and Hayden-Wing Associates for Meritage Energy Partners, LLC owner of the South Casper Creek Oil Field.[9] As explained in the UAA, the primary source of chloride in the Poison Spider Creek Drainage is the discharge of produced water from the oil field to an unnamed tributary to Poison Spider Creek. Because the produced water discharge will not meet the State's recently assigned 230 mg/L chronic chloride standard, Meritage Energy Partners proposed a site-specific standard which was adopted by the Council.

The basis for the site-specific standard, as set out in the UAA, is that: (1) the discharge of produced water from this oil field has occurred since the 1920s; (2) over the years, the discharge

[9] Meritage Energy Partners LLC submitted a separate UAA to the Wyoming DEQ, petitioning for a downgrade from Class 3B to Class 4C for the unnamed tributary to Poison Spider Creek. The Wyoming DEQ approved that classification change, and on April 17, 2006, the DEQ submitted the revised 4C classification to EPA for review pursuant to Section 303(c) of the CWA. EPA disapproved that revised classification on September 14, 2006.

has created a valuable water resource; (3) based on site-specific biological information, the designated aquatic life use is being attained, even though the existing ambient chloride concentrations exceed the predictive statewide standards in Appendix B of Chapter 1; and (4) discontinuing the discharge would have a significant impact on the economy of the region.

EPA's review focused on the biological information presented in the UAA and the premise that existing chloride levels above the statewide chronic standard were not adversely affecting or limiting the aquatic community in Poison Spider Creek. To evaluate this premise, the contractors for Meritage Energy Partners collected biological data from three sampling locations upstream of the confluence with the unnamed tributary, which carries the oil field discharge to the Creek, and three locations downstream of the confluence. Benthic macroinvertebrates and fish were sampled at each location.

The biological data provided in the UAA indicate that the abundance and number of benthic macroinvertebrate taxa at the upstream and downstream sampling locations were not statistically different. Although there were some differences in the occurrence of individual species, the UAA concludes that these observed differences were most reasonably explained by significant differences in habitat between the upper-most and lower-most sites. The fish sampling found four times as many fish at the three downstream sites as were collected at the upstream sites. Although the number of fish species collected, five, was the same at the upstream and downstream sites, there were differences in occurrence. For example, white suckers were collected only at the lower-most site, while one Iowa darter was collected at one of the upstream sites. As with the macroinvertebrates, the UAA concludes that these occurrence differences were most reasonably explained by habitat differences among sites and habitat preferences among species.

Although EPA does not agree with all of the statements made in the UAA, the biological data do support the UAA's finding that chloride is not a limiting stressor at this site and the aquatic community downstream of the chloride discharge carried by the unnamed tributary to Poison Spider Creek is not being adversely affected or limited by the existing chloride concentrations, even though those concentrations exceed the statewide chronic standard. Because of the statistical approach used to calculate this ambient-based, site-specific standard, it will be implemented as an instantaneous maximum value, not to be exceeded. This was an important consideration in our review of this standard.

Based on the biological information in the UAA, EPA concludes that the new site-specific chloride standard for Poison Spider Creek is consistent with the requirements of the CWA and EPA's implementing regulation at 40 CFR Section 131.11. Accordingly, the site-specific chloride standard for Poison Spider Creek is approved without condition.

Salt Creek, Meadow Creek and the Mainstem of the Powder River below Salt Creek

The new site-specific aquatic life standards for chloride applicable to Salt Creek (a tributary to the Powder River), Meadow Creek (a tributary to Salt Creek), and the mainstem of the Powder River below Salt Creek are:

- Salt Creek - 1600 mg/L as an instantaneous maximum value, not to be exceeded at any time.
- Meadow Creek -1600 mg/L as an instantaneous maximum value, not to be exceeded at any time.
- Powder River below Salt Creek - 984 mg/L as an instantaneous maximum value, not to be exceeded at any time.

The new site-specific standards are based on information provided in a UAA entitled *Use Attainability Analysis: Salt Creek and Powder River Natrona and Johnson County, Wyoming, November 10, 2004*. The UAA was prepared for Anadarko Petroleum Corporation by the RETREC Group of Fort Collins, Colorado. The analysis was triggered when Wyoming's reclassification of Salt Creek from Class 4 to Class 2C, in 2001, resulted in more stringent effluent limits for Anadarko's produced water discharges to Salt Creek. The company considered compliance with the statewide chloride standards, which accompanied the upgrade to Class 2C, to be cost prohibitive and prepared the UAA to support its application for alternative, site-specific chloride standards which were adopted by the Council.

A principal conclusion of the UAA is that, based on site-specific biological information and a review of toxicity information in the literature, the designated aquatic life uses in these waterbodies are being attained, even though the existing ambient chloride concentrations exceed the predictive statewide standards in Appendix B of Chapter 1. Further, the UAA argues that, if the discharges of produced water ceased, the result would be detrimental to existing uses of these streams due to loss of or reduction in surface water resources, aquatic and wildlife habitat, and livestock production.

The conclusions reached in the UAA are based on chemical, physical and biological site-specific evaluations. The methods used to make these evaluations were consistent with Wyoming DEQ's assessment protocols. EPA's review focused on the biological information presented in the UAA and the premise that existing chloride levels above the statewide standards were not adversely affecting or limiting the aquatic community in Salt Creek, Meadow Creek, or the Powder River below Salt Creek. To evaluate this premise, the RETREC Group contractors for Anadarko collected macroinvertebrate and periphyton data in Salt Creek and its main tributaries and in the Powder River upstream and downstream of its confluence with Salt Creek. No specific fish sampling was conducted for the UAA because it was determined that the existing data (e.g., from fish surveys conducted by Wyoming Game and Fish Department) included sufficient diversity and abundance information to allow for effects evaluations without additional sampling.

Based on assessment of seven macroinvertebrate metrics (e.g., taxa richness, EPT taxa, etc.) and following Wyoming DEQ's assessment protocols, the UAA found that, although there is some shift in community structure, there is no impairment of the Powder River's benthic community downstream of its confluence with Salt Creek. The UAA concludes, therefore, the benthic community in the Powder River below Salt Creek is fully attained. For Salt Creek, however, the benthic community indices in the discharge area "…consistently appear somewhat degraded

compared to upstream stations." On the other hand, the UAA notes that a lower station on Salt Creek shows the healthiest and most diverse benthic community of any stations tested, including increased numbers of taxa considered to be sensitive to pollution. And, the UAA further notes that the chloride concentrations in Salt Creek are almost constant throughout its length, suggesting that the somewhat lower community indices near the discharge stations are due to factors other than chloride (e.g., habitat problems at the stations near the discharge points).

The fishery evaluation shows that the existing fish community diversity "...meets and even exceeds the expected fish community diversity for a stream in this region" of Wyoming. Based on this, the UAA concludes that the fish community is not adversely affected by the existing, ambient chloride levels. Further, an evaluation of literature toxicity values suggests that the existing chloride concentrations would be expected to have no more than a marginal effect on any fish species expected to occur in these waterbodies. This appears to be borne out by the observational fishery information for the site.

Although EPA does not agree with all of the statements made in the UAA, the biological data do support the UAA's finding that chloride is not a limiting stressor at these sites and that the aquatic communities in Salt Creek, Meadow Creek and the Powder River below Salt Creek are not being adversely affected or limited by the existing chloride concentrations, even though those concentrations exceed the statewide standards. Because of the statistical approach used to calculate these ambient-based, site-specific standards, they will be implemented as instantaneous maximum values, not to be exceeded. This was an important consideration in our review of these standards.

Based on the biological information in the UAA, EPA concludes that the new site-specific chloride standards for Salt Creek, Meadow Creek and the Powder River below Salt Creek are consistent with the requirements of the CWA and EPA's implementing regulation at 40 CFR Section 131.11. Accordingly, the site-specific chloride standards for Salt Creek, Meadow Creek and the Powder River below Salt Creek are approved without condition.

II - Standards Approved Subject to ESA Consultation

The following revisions are approved for the purposes of CWA Section 303(c), subject to the results of consultation under Section 7(a)(2) of the ESA.

Pursuant to the *Memorandum of Agreement* (MOA) *Between the Environmental Protection Agency, Fish and Wildlife Service and National Marine Fisheries Service Regarding Enhanced Coordination Under the Clean Water Act and Endangered Species Act* (66 FR 11202), EPA Headquarters and the Services have initiated a national consultation on all of EPA's recommended water quality criteria for the protection of aquatic organisms. As explained in the MOA, the national consultation provides ESA Section 7 consultation coverage for any water quality criteria included in State or Tribal water quality standards, approved by EPA, that are identical to or more stringent than EPA's recommended CWA Section 304(a) criteria. EPA Region 8, therefore, will defer to the national consultation on questions of protectiveness for aquatic life criteria meeting this threshold. In the unlikely event that the national consultation

discovers that EPA's recommended CWA Section 304(a) criteria are likely to cause jeopardy to listed species or the adverse modification or destruction of designated critical habitat, EPA has retained its authority to revise its approval decision.

Revisions to Appendix B Aquatic Life Criteria for Priority Pollutants (Appendix B)

A key aspect of any State water quality standards triennial review is to consider the need for revisions based on the latest EPA criteria recommendations for priority toxic pollutants. The applicable requirements are found in CWA § 303(c)(2)(B). As necessary to meet these requirements, States are to revise their water quality standards to be consistent with EPA's most recently published criteria, or adopt defensible alternatives that are protective of designated uses.

The adopted revisions to the aquatic life criteria in Appendix B include changes for one priority pollutant – cadmium – to be consistent with EPA's updated (2001) CWA Section 304(a) recommendations.

Footnote 10 was revised to state that, although Wyoming's 5 ug/L chronic selenium criterion is expressed as total recoverable metal, a dissolved chronic selenium criterion of 4.61 ug/L can be calculated using a conversion factor of 0.922. EPA interprets this revision as establishing that Wyoming's total recoverable chronic criterion (5 ug/L) can be converted to a dissolved value, e.g., for assessment purposes where only dissolved ambient data are available. The conversion factor adopted by Wyoming is consistent with the information provided regarding selenium (Footnote T) in the priority toxic pollutant section of EPA's *National Recommended Water Quality Criteria for Priority Toxic Pollutants* (2006).

EPA concludes that the changes to Appendix B are consistent with CWA Section 303(c) and the implementing federal water quality standards regulation (40 CFR Section 131.11). Accordingly, the revisions are approved.

Revisions to Appendix B Aquatic Life Criteria for Non-Priority Pollutants (Appendix B)

Aluminum

Regarding both the acute and chronic aluminum criteria, footnote revisions were adopted to clarify that the criteria are now expressed as dissolved metal. This clarification was made by removing the previous footnote 10. Regarding the chronic criterion, changes were made to footnote 14 to delete the statement that the criterion is expressed as total recoverable metal and the statement that a discharger may request development of a permitting procedure that would take into account less toxic forms of particulate aluminum (which are measured using the total recoverable method but not the dissolved method). The Region notes that the State retained the provision specifying that the chronic criterion does not apply to waters with both pH levels equal to or greater than 7.0 and hardness levels equal to or greater than 50 ppm as $CaCO_3$ after mixing. Because many Wyoming ambient waters have pH and hardness levels that meet these conditions, a key result of these revisions is that there are now many Wyoming waters where only the dissolved 750 ug/L acute aluminum criterion will apply.

As explained in the Wyoming DEQ's Statement of Principal Reasons, this change was made to address a problem common to many Wyoming waters, i.e., storm-related runoff resulting in suspension of naturally occurring clays with concentrations of aluminum silicates well above the current State numeric criteria. Although aluminum silicate is not toxic, it is measured by the total recoverable analysis, sometimes resulting in an exceedence of the standard. The problem, then, is that this exceedence could be viewed as indicating a problem where no toxic effect would be expected. EPA has acknowledged this problem and has allowed states to address the naturally occurring aluminum silicate issue by changing the method of analysis from total recoverable to dissolved, as adopted by the Council. EPA therefore concludes that these revisions to Appendix B are consistent with CWA Section 303(c) and the implementing federal water quality standards regulation (40 CFR Section 131.11). Accordingly, the revisions are approved.

Chloride

Footnote 15 was added to Appendix B, indicating that Wyoming's numeric chloride criteria will apply only to Class 1, 2AB, 2B and 2C uses. The effect of this change is to remove the current application of the chloride criteria from Class 3 (non-fishery) waters.

EPA's understanding is that this revision was adopted, in part, because of concern that the statewide chloride criteria are not appropriate for Class 3 waters. The Region notes that the statewide criteria are based on EPA's national aquatic life criteria recommendations for chloride. The State's concerns are based on the belief that these national chloride criteria recommendations were developed to protect an assemblage of aquatic organisms that is not adequately representative of the range of aquatic communities expected to occur in Class 3 waters. For example, whereas the national criteria were calculated using toxicity data for fish species, in Class 3 waters fish are either not expected to occur, or expected to be substantially different in terms of species composition. Likewise, whereas the national criteria were calculated from toxicity data for invertebrate species, in Class 3 waters the expected invertebrate community may be substantially different in terms of species composition.

The Region notes that EPA's CWA Section 304(a) criteria for chlorides were published in 1988, and EPA is currently in the process of developing and compiling additional chloride toxicity data that were not used in developing the 1988 criteria. When this project is completed, the data could be used to reassess the chloride criteria appropriate for Wyoming waters expected to support fish (Class 2) and waters not expected to support fish (Class 3). In addition, it may be possible to develop chloride criteria that are more appropriate for the expected species composition.

The Region recognizes that chloride is not a CWA § 307(a) priority toxic pollutant and is therefore not subject to the criteria adoption requirements set out in CWA § 303(c)(2)(B).[10] The

[10] CWA § 303(c)(2)(B) requires in part that States "shall adopt criteria for all toxic pollutants listed pursuant to section 307(a)(1) of this Act for which criteria have been published under section 304(a), the discharge or presence of which in the affected waters could reasonably be expected to interfere with those designated uses adopted by the

key requirements for non-priority pollutants are found in Section 131.11 of the water quality standards regulation. The Region further recognizes that paragraph (a)(2) of Section 131.11 of the regulation applies only to "toxic pollutants" which are defined in Section 131.3(d) of the regulation as CWA § 307(a) priority toxic pollutants. The criteria adoption requirements applicable to non-priority pollutants are found in Section 131.11, paragraphs (a)(1) and (b). The key requirement in paragraph (a)(1) is that States must adopt criteria sufficient to protect designated uses. Paragraph (b) further specifies that States "should" adopt numeric criteria, and that States "should" adopt narrative criteria where numeric criteria "cannot be established or to supplement numeric criteria."

Based on the above, the opinion of the Region is that the criteria adoption requirements for non-priority pollutants are somewhat different than for priority toxic pollutants. The Region recognizes that it is reasonable to interpret the use of the word "should" (e.g., instead of the word "must") in the portion of Section 131.11(b) that addresses adoption of numeric criteria, as an acknowledgement that for non-priority pollutants, there is more flexibility to rely on narrative criteria. This same flexibility would extend to State decisions for other non-priority pollutants.

The Region is keenly interested in working with Wyoming to develop replacement numeric criteria that are more appropriate for the expected aquatic communities in Class 3 waters.[11] EPA notes that a strict application of the recalculation procedure published by EPA may not be an appropriate approach for this effort, because it might result in a site-specific toxicity dataset that does not satisfy the minimum data requirements associated with the procedure. However, it may be possible for the State and EPA to agree upon an alternative recalculation approach (possibly a modification of the published EPA recalculation method). The flexibility to develop an alternative method is recognized in Section 131.11(b)(1) of the regulation, which indicates that numeric criteria may be based on "other scientifically defensible methods."

Another option that could be considered would be to develop a detailed narrative criteria implementation method, including a protocol for translating the State's narrative criteria to numeric endpoints that can be used for permitting and assessment purposes.

Considering all of the above, EPA concludes that Wyoming's decision to remove the chloride criteria from Class 3 waters is reasonable and consistent with CWA Section 303(c) and the implementing federal water quality standards regulation (40 CFR Section 131.11). The revisions are approved.

Flow Conditions (Section 11(a)(i))

This section was revised to identify the 7Q10 method of determining low flow conditions as one of the methods that may be used for implementation of water quality standards. The section also indicates that implementation decisions "will conform to the magnitude, frequency, and duration

---

State, as necessary to support such designated uses. Such criteria shall be specific numerical criteria for such toxic pollutants." Underline added.

[11] The Region is likewise interested in pursuing a similar approach for other parameters where numeric criteria are not applicable on a statewide basis, particularly where important for the protection of the assigned use designations.

provisions as described in these regulations." The 7Q10 method has been commonly used by states for purposes of characterizing critical low flow conditions and is described in EPA guidance.[12] EPA concludes that the revisions to Section 11(a)(i) are consistent with CWA Section 303(c) and the implementing federal water quality standards regulation (40 CFR Part 131). Accordingly, the revisions are approved.

Ammonia (Section 21(a)(i))

The language in this section was modified to identify waters subject to the numeric ammonia criteria in Appendix C. This revision clarifies that the numeric ammonia criteria in Appendix C apply to all Class 1, 2A, 2B, 2AB and 2C waters. The Region notes that ammonia is a non-priority pollutant and it is reasonable to adjust the requirements for ammonia based on the composition and sensitivity of the aquatic organisms expected to occur. The Region also notes its interest in working with Wyoming to further develop the State's program for controlling ammonia toxicity on segments where only a narrative standard applies. EPA concludes that the revisions to Section 21(a)(i) are consistent with CWA Section 303(c) and the implementing federal water quality standards regulation (40 CFR Section 131.11). The revisions are approved.

Clarification of which Classes of Waters are Subject to the Appendix B Aquatic Life Criteria (Section 21(b))

The language in this section was modified to indicate the Appendix B aquatic life criteria "apply to all Class 1, 2A, 2B, 2AB, 2C, 3A, 3B, and 3C waters." EPA's understanding, based on discussion with Wyoming DEQ staff, is that this change was made, in part, to indicate the applicable criteria for the identified use classes, but also to avoid confusion regarding the criteria that apply to waters designated for other use classifications. EPA concludes that the clarifying revisions to Section 21(b) are consistent with CWA Section 303(c) and the implementing federal water quality standards regulation (40 CFR Section 131.11). Accordingly, the revisions are approved.

Radioactive Material (Section 22(b))

This section was changed to add 2B to the list of classifications where the 60 pCi/L criterion for radium 226 applies. Class 2B uses do not include protection of drinking water supplies, therefore it is reasonable to exclude from 2B waters the drinking water-based radium 226 criterion (5 pCi/L, as provided in Section 22(a)). EPA does not have a CWA § Section 304(a) aquatic life criteria recommendation for radium 226, however States must adopt criteria sufficient to protect designated uses (40 CFR Section 131.11(a)(1)). EPA concludes that the revisions to Section 22(b) are consistent with CWA Section 303(c) and the implementing federal water quality standards regulation (40 CFR Section 131.11). The revisions are approved.

[12] See Section 5. 2 of the *Water Quality Standards Handbook.*

Dissolved Oxygen (Section 24)

Class 2A was added to the list of waters for which the narrative dissolved oxygen criterion applies. Class 2A waters are those that do not have the potential to support game fish. The narrative criterion provides for protection of aquatic life uses by requiring that "wastes attributable to or influenced by the activities of man shall not deplete dissolved oxygen amounts to a level which will result in harmful acute or chronic effects to aquatic life, or which would not fully support existing and designated uses." Use of such narrative criteria allows flexibility to vary the application of requirements as appropriate for the various aquatic communities within these classes. The Region notes its interest in working with Wyoming to further develop its program for assuring dissolved oxygen conditions necessary to protect aquatic life on segments where only a narrative criterion applies. EPA concludes that these revisions to Section 24 are consistent with CWA Section 303(c) and the implementing federal water quality standards regulation (40 CFR Section 131.11). The revisions are approved.

Ammonia Table (Appendix C)

A typographical error was corrected for the ammonia criterion relative to a temperature of 20° and a pH of 6.7. It was changed from 5.52 to 4.52 mg N/L. In addition, language was added to footnote 2 of Appendix C to indicate that the chronic aquatic life criteria for total ammonia will be implemented on Class 2 waters with an assumption that early life stages are present unless rebutted by site-specific information. EPA concludes that these revisions to Appendix C are consistent with CWA Section 303(c) and the implementing federal water quality standards regulation (Section 131.11). The revisions are approved.

Cadmium Hardness Equations (Appendix F)

The equation for calculating aquatic life values for cadmium was updated to be consistent with the latest EPA aquatic life criteria recommendations for cadmium (2001). The 2001 update to EPA's national criteria included the addition of a large amount of new toxicity data, and resulted in more defensible acute and chronic criteria recommendations. EPA concludes that these revisions to Appendix F are consistent with CWA Section 303(c) and the implementing federal water quality standards regulation (Section 131.11). The revisions are approved.

Hardness Cap Policy (Appendix F)

Footnote (1) in the table titled "Equations for Parameters with Hardness Dependence" was revised to remove the low end hardness cap (for values less than 25 mg/L). Previously, the footnote allowed for use of hardness values in the range from 25 to 400 mg/L. The revised footnote allows for the use of hardness values in the range from 0 to 400 mg/L, and requires that the adjustment be capped at 400 mg/L for waters where ambient hardness is greater than 400 mg/L. The revision is consistent with the EPA policy and guidance regarding hardness caps, as detailed in the 2002 version of the national criteria compilation (*National Recommended Water Quality Criteria: 2002*). This revision results in more stringent criteria for cadmium when ambient hardness levels are less than 25 mg/L. EPA concludes that this revision to Appendix F

is consistent with CWA Section 303(c) and the implementing federal water quality standards regulation (Section 131.11). The revision is approved.

III - DISAPPROVED STANDARDS

EPA has concluded that certain revisions are inconsistent with the requirements of the CWA and EPA's implementing regulation. Accordingly, the following revisions are disapproved. These disapproved Wyoming provisions are not effective for purposes of the CWA, pursuant to 40 CFR Section 131.21(c). As a result, the previous water quality standards adopted by Wyoming, and approved by EPA, continue to apply for all purposes of the CWA. Additional information is provided below regarding options and EPA's expectations for resolving each deficiency, including information regarding the potential for EPA promulgation of replacement federal standards.

Primary Contact Recreation (Element of Section 27(a))

The revised Section 27(a), addressing primary contact recreation, provides, in part, that:

> *"All waters in Table A of the Wyoming Surface Water Classification List are designated for primary contact recreation unless identified as a secondary contact water by a "(s)" notation. Waters not specifically listed in Table A of the Wyoming Surface Water Classification List shall be designated as secondary contact waters."*

Based on this revised language, all waters not specifically listed in Table A are designated as secondary contact waters. Until this revision, all waters of the State (Tables A and B and unlisted waters) were designated as primary contact recreation. This revision, therefore, changes the applicable designated use from primary to secondary contact recreation for a large number of waters statewide.

The CWA and EPA's water quality standards regulation effectively establish a rebuttable presumption that the CWA Section 101(a)(2) uses, aquatic life and primary contact recreation, are attainable and should apply to all waters. This presumption can be rebutted, but only where it is affirmatively demonstrated that such uses are not attainable. The mechanism for making such a demonstration is a UAA. EPA's water quality standards regulation, at 40 CFR Section 131.10(j), identifies the situations where a UAA is required. UAAs are required in several situations, including situations where the State "...wishes to remove a designated use that is specified in Section 101(a)(2) of the Act..." (40 CFR Section 131.10(j)(2)). The regulation, at 40 CFR Section 131.10(g), further identifies the six specific use removal criteria that may be considered in demonstrating that attaining a use is infeasible. Section 33(b) of the revised Wyoming surface water quality standards includes six use removal criteria that are essentially the same as those in the federal regulation.

Section IV of the Wyoming DEQ's *Recreational Use Designations Use Attainability Analysis (UAA) Worksheet* recognizes this need to provide a UAA when downgrading from a primary to a

secondary contact recreational use designation. Specifically, the Wyoming F's guidance notes:

> *"Chapter 1, Section 33(b) requires that all petitions to lower a classification or criteria must be based on one or more of the use removal factors listed in Section 33(b)(i) through (vi). Most commonly, the factors that apply to reclassifying a water from a primary to a secondary contact designation are 33(b)(ii) or (v) though there may be unique circumstances where one of the other factors is most appropriate."*

With respect to the State's action to remove primary contact recreation standards from a large number of State waters (all those not listed in Table A), EPA is concerned that the revision was not based on a UAA which considered waterbody specific information. The State's failure to complete UAAs as a basis for determining the appropriate and attainable recreation use clearly is inconsistent with the requirement at 40 CFR Section 131.10(j)(2). The State's rationale is that Table A is a listing of waters that are named on the USGS 1:500,000 hydrologic map of Wyoming and that these are the larger streams, lakes and reservoirs that have a higher probability of supporting primary contact recreation. However, the Wyoming DEQ has acknowledged that there are likely waters on Table B that also support or warrant support for primary contact recreation. Indeed, a review of the waters listed on Table B reveals, for example, a large number of lakes, reservoirs and ponds that are not listed on Table A. Although these are smaller lakes, reservoirs and ponds that do not appear on a 1:500,000 scale map, these are waters that would be expected to support or have the potential to support primary contact recreation.

EPA understands that the goal of the State's approach is to provide a better approximation of the actual potential for primary contact recreation, and we acknowledge that some adjustments to the current use designations may be warranted. Nevertheless, the approach taken to making those adjustments, i.e. , one based simply on mapped features that appear on a 1:500,000 scale map, is not consistent with the CWA or EPA's water quality standards regulation. The presence or absence of a waterbody on a map is not a useful or definitive indicator of its ability to support primary contact recreation.

The approach utilized by Wyoming did not consider site-specific information that can be vital in determining the potential for recreation uses to occur, such as water flows and depths, location of the waterbody and its proximity to residences, presence of features which facilitate and encourage recreation uses (e.g., trails and parks), substrate composition, and water quality conditions. Even more importantly, the Wyoming approach did not consider site-specific information regarding existing recreation uses, including information that can readily be obtained from knowledgeable individuals living in the area. For example, the Region is concerned that in some cases children may engage in recreational activities in waters not listed on Table A, and that it may be appropriate to consider such children's activities as existing primary contact uses. It is the Region's strong belief that, with regard to children's activities, water flow or depth is a very poor measure of a waterbody's suitability for primary contact recreation. Children can be very creative about achieving full body contact in even the smallest waterbodies.

Wyoming should have considered site-specific information in determining what recreation standard is appropriate for each segment. The importance of considering site-specific information has long been a key point of emphasis in EPA guidance regarding designation and protection of recreation uses, both at the national and Regional level and is a key underpinning of the federal UAA requirements.

The designated use change from primary to secondary contact recreation, for a large number of waters statewide without supporting UAAs is inconsistent with the requirements of the CWA and EPA's implementing regulation at 40 CFR Sections 131.10(g) and 10(j). Accordingly, this element of the revised water quality standards in Section 27(a) is disapproved.

To resolve this disapproval, the State will need to delete the language quoted above from Section 27(a). In addition, Section VII of the State's UAA Implementation Policy will need to be revised to reflect this disapproval.

For waters where the State believes that further review of the appropriate recreation use is warranted, the best option would be to utilize the Wyoming DEQ's *Recreational Use Designations Use Attainability Analysis (UAA) Worksheet* on a site-specific basis. Another option that can be evaluated would be to work with the Region to develop a categorical UAA. The Region cautions that the defensibility of a categorical approach would likely depend on identifying a category or categories of waters that are sufficiently similar such that it is reasonable to use site-specific information for a representative sample of locations to characterize the existing and potential uses for the entire category (e.g., ephemeral waters). However, for reasons identified above, the Region's perspective is that the most appropriate and defensible method for determining the most appropriate recreation use is to compile and consider site-specific information for each segment of concern.

For waters not listed on Table A, the Region notes that the previous recreation designated uses adopted by Wyoming, and approved by EPA, continue to apply for all purposes of the CWA. Accordingly, there is no need for EPA to federally promulgate replacement designated uses to resolve this disapproval action.

Variances (Section 27(d))

The revised Section 27(d) provides that:

> *Temporary or permanent variances to the E. coli values provided in (a) through (c) above may be granted in instances where the source of bacterial contamination is found to be natural in origin (wildlife), unavoidable (off-channel stock watering pits), or otherwise in the public interest.*

EPA is concerned that the revised rule allows for temporary or permanent changes to the State's numeric water quality standards for *E. coli* outside the State's water quality standards rulemaking process. A variance is a short-term exemption from meeting an otherwise applicable water quality standard. EPA, therefore, considers a variance to be a change to a water quality standard,

and as such, it is subject to a State's water quality standards-setting requirements and EPA review and approval.[13]

Because the revised Section 27(d) allows for variances outside the standards-setting process, it is inconsistent with the requirements of the Act and EPA's implementing regulation at 40 CFR Section 131.10, 131.13, and 131.20. Accordingly, this revision is disapproved.

If the State chooses to allow variances, Sub-Section 27(d) will have to be revised to narrow the situations that qualify for variances to those listed in 40 CFR Section 131.10(g), and indicate that, where a variance is proposed, that variance will be adopted through the State's water quality standards review process and submitted to EPA for review and approval pursuant to CWA Section 303(c). Alternatively, the State could choose to delete the provision entirely. EPA will continue to work with the State to explore options that are consistent with the Act.

With respect to Section 27(d), the Region notes that the previous water quality standards adopted by Wyoming, and approved by EPA, continue to apply for all purposes of the CWA. Accordingly, there is no need for EPA to federally promulgate replacement standards to resolve this disapproval action.

Thallium and Toxaphene Human Health Criteria (Appendix B)

In EPA's February 14, 2007 comment letter, we identified a typographical error in the thallium human health criteria. This error was not corrected, and as a result, the "Fish and Drinking Water" and "Fish Only" criteria that were adopted are 2.4 and 4.7 µg/L, respectively. EPA's CWA Section 304(a) criteria recommendations are 0.24 and 0.47 µg/L. Because the adopted human health criteria are a factor of 10 less stringent than the recommended CWA Section 304(a) criteria, and were adopted as a result of a typographical error, EPA does not consider the adopted criteria to be scientifically defensible, consistent with CWA § 303(c) or consistent with EPA's implementing regulation at 40 CFR Section 131.11. Accordingly, the revisions to the thallium criteria are disapproved.

A similar typographical error was not corrected in the toxaphene human health criteria. As a result, the State adopted 0.0028 µg/L for both the "Fish and Drinking Water" and "Fish Only" criteria. EPA's CWA Section 304(a) criteria recommendations are 0.00028 and 0.00028 ug/L.[14] Because the adopted human health criteria are a factor of 10 less stringent than the recommended CWA Section 304(a) criteria, and were adopted as a result of a typographical error, EPA does not consider the adopted criteria to be scientifically defensible, consistent with CWA § 303(c) or consistent with EPA's implementing regulation at 40 CFR Section 131.11. Accordingly, the revisions to the toxaphene criteria are disapproved.

---

[13] See 40 CFR Section 131.13 addressing general policies; the 1983 preamble to EPA's water quality standards regulation on this topic; and Section 5.3 of EPA's *Water Quality Standards Handbook*.

[14] The CWA § 304(a) "water & organisms" and "organisms only" criteria recommendations are identical because the assumed exposure is dominated by the organism consumption route, and the water consumption route does not affect the criteria that are calculated.

This disapproval action can be resolved by correcting the typographical errors in the human health criteria for both parameters. Based on conversations with Wyoming DEQ staff, it is EPA's understanding that the criteria adopted were the result of an oversight, and that the State intends to correct the error at the next rulemaking opportunity. Therefore, it is EPA's expectation that this disapproval action will be resolved as a result of action by Wyoming to revise the criteria of concern.

IV - Provisions For Which EPA Is Taking No Action

There are several provisions that EPA is not acting on today because EPA has determined they are not water quality standards requiring EPA review and approval under CWA Section 303(c). EPA considers provisions that define, change, or establish magnitude, duration, or frequency to be applied, for example, in state/tribal attainment decisions to be new or revised WQS.[15] The following provisions do not constitute new or revised WQS:

- Deletion of fecal coliform definition and renumbering definitions in Section 2(b).
- Reference correction in Section 4(d)(ii).
- Section 5 and Section 20 reference to the Agricultural Use Protection Policy that was not adopted.
- References added to Section 21(d).
- Revision to Section 21(f)(ii) to be consistent with 21(e)(ii).
- Reference correction in Section 21(f)(viii).
- Reference correction in Section 31.
- Revisions to Section 33(c) providing that the Water Quality Administrator may make recommendations to the Council regarding site-specific criteria.
- Deletion of duplicate criteria for Bis (chloromethyl) Ether in Appendix B.
- Deletion of reference to Donkey Creek and Antelope Creek in Appendix B, Site-Specific Criteria.

[15] See EPA's July 6, 2005 *Determination on Referral Regarding Florida Administrative Code Chapter 62-303 Identification of Impaired Surface Waters.*

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
Denver, CO 80202-1129
Phone 800-227-8917
www.epa.gov/region08

AUG - 9 2016

Ref: 8EPR-EP

Dr. David Bagley, Chairman
Wyoming Environmental Quality Council
122 W. 25th Street
Herschler Building 1W, Room 1714
Cheyenne, Wyoming 82002

Re: EPA's Action on New and Revised Water Quality Standards

Dear Chairman Bagley:

The U.S. Environmental Protection Agency (EPA) Region 8 has completed its review of Wyoming's new and revised water quality standards (WQS), and I am pleased to inform you that today the Region is approving the WQS described in the enclosure. The Environmental Quality Council (the Council) adopted these revisions on July 11, 2013, and submitted them to the EPA for review with a letter dated October 8, 2013, from Todd Parfitt, Director of Wyoming Department of Environmental Quality (the Department). The submittal package included a complete record of the rulemaking process and the Attorney General's certification that the amendments were adopted in accordance with state law. Receipt of the submittal package on October 21, 2013, initiated EPA's review pursuant to § 303(c) of the Clean Water Act (CWA or the Act) and the implementing regulation (40 CFR Part 131). In August 2015, the EPA finalized revisions to its WQS regulations at 40 CFR Part 131.[1] The EPA notes that Wyoming's WQS were submitted to the EPA before the effective date of the EPA's final rule, and, therefore, fall within the transition period during which the EPA reviewed them for consistency with the regulations in effect prior to the final rule.[2]

Clean Water Act Review Requirements

The CWA § 303(c)(2), requires states and authorized Indian tribes[3] to submit new or revised WQS to the EPA for review. The EPA is required to review and approve, or disapprove, the submitted standards. Pursuant to CWA § 303(c)(3), if the EPA determines that any standard is not consistent with the applicable requirements of the Act, the Agency shall, not later than the ninetieth day after the date of submission, notify the state or authorized tribe and specify the changes to meet the requirements. If such changes are not adopted by the state or authorized tribe within ninety days after the date of notification, the EPA is to propose and promulgate such standard pursuant to CWA § 303(c)(4). The Region's goal has been, and will continue to be, to work closely with states and authorized tribes throughout the standards revision process so that submitted revisions can be approved by the EPA. Pursuant to the

[1] See 80 Fed. Reg. 51,020, 51,029 (August 21, 2015), available at http://water.epa.gov/lawsregs/lawsguidance/wqs_index.cfm.
[2] See 80 Fed. Reg. 51,020, 51022 (August 21, 2015).
[3] CWA § 518(e) specifically authorizes EPA to treat eligible Indian tribes in the same manner as states for purposes of CWA § 303. See also 40 CFR § 131.8.

EPA's Alaska Rule (40 CFR § 131.21(c)), new or revised state standards submitted to the EPA after May 30, 2000, are not effective for CWA purposes until approved by the EPA.

Today's Action

Today the EPA is approving Wyoming's new and revised WQS. Some of the changes include:

- New aquatic life criteria for acrolein, nonylphenol and diazinon and revised aquatic life criteria for tributyltin and silver consistent with the EPA's National Recommended Water Quality Criteria published pursuant to Clean Water Act § 304(a);
- New human health criteria for hexachlorocyclo-hexane-technical and silver, and revised human health criteria for acrolein, chlorobenzene, phenol, endrin, cyanide, nickel, thallium, and toxaphene consistent with the EPA's National Recommended Water Quality Criteria published pursuant to Clean Water Act § 304(a); and
- New human health criteria for bromate, chlorite, haloacetic acids, total trihalomethanes, and a revised human health criterion for 1,1-dichloroethylene consistent with the Maximum Contaminant Levels established by the EPA under the Safe Drinking Water Act.

The rationale for the EPA's action is discussed in detail in the enclosure. There are several provisions that the EPA is not acting on today, as described in the enclosure.

Endangered Species Act Requirements

The EPA's approval of Wyoming's WQS is considered a federal action which may be subject to the Section 7(a)(2) consultation requirements of the Endangered Species Act (ESA). Section 7(a)(2) of the ESA states that "each federal agency … shall …insure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined to be critical…" The EPA initiated consultation under ESA Section 7(a)(2) with the U.S. Fish and Wildlife Service (Service) regarding our approval of the new or revised WQS. The EPA also has a CWA obligation, as a separate matter, to complete its WQS action. Therefore, in acting on the state's WQS today, EPA is completing its CWA § 303(c) responsibilities. However, because ESA consultation on the EPA's approval of these standards is ongoing, the EPA's approval is made subject to the outcome of the ESA consultation process. Should the consultation process with the Service identify information regarding impacts on listed species or designated critical habitat that supports revisiting the EPA's approval, the EPA will, as appropriate, take a new action, for example, by issuing a federal regulation setting a federal WQS pursuant to its separate authority under CWA Section 303(c)(4). 33 U.S.C. § 1313(c)(4).

Indian Country

The WQS approvals in today's letter apply only to water bodies in the state of Wyoming, and do not apply to waters that are within Indian country, as defined in 18 U.S.C. § 1151. Today's letter is not intended as an action to approve or disapprove water quality standards applying to waters within Indian country. The EPA, or authorized Indian tribes, as appropriate, will retain responsibilities for water quality standards for waters within Indian country.

Conclusion

We thank the Department and the Council for its efforts to improve the water quality standards that protect the waters of Wyoming. If you have any questions, please call Maggie Pierce on my staff at (303) 312-6550.

Sincerely,

Martin Hestmark
Assistant Regional Administrator
Office of Ecosystems Protection
and Remediation

Enclosure

cc: Lindsay Patterson
Surface Water Quality Standards Supervisor, Wyoming Department of Environmental Quality

Rationale for EPA's Action on Wyoming's New/Revised Surface Water Quality Standards

Summary

Discussion of the new or revised provisions is organized into the following categories: (1) WQS approved without condition, (2) WQS approved subject to ESA consultation, and (3) provisions the EPA is not taking action on today.

WQS Approved Without Condition

Agriculture Use (Section 3)

The Section 3(a) description of the agriculture designated use was revised from "irrigation or stock watering" to "irrigation and/or stock watering" to include situations where a water body is used for both irrigation and livestock uses. This revision is consistent with the CWA and 40 CFR § 131.10, and is approved.

Recreation Uses, Criteria, and Variances

Recreation Uses (Section 3, 27 and Appendix A)

The Section 3(e) description of the recreation designated use was revised to add "The recreation designated use includes primary contact recreation and secondary contact recreation subcategories." Section 27(a) was revised to delete the language the EPA disapproved because it removed primary contact recreation from a large number of waters without completing a use attainability analysis (UAA) as required by 40 CFR § 131.10(g) and by 40 CFR § 131.10(j).[4] Section 27(b) was revised to indicate waters will be designated for secondary contact recreation through the UAA process. Section 27 (a) and (b) and Appendix A section (b) were revised to indicate primary and secondary contact designated uses are identified in the Wyoming Surface Water Classification List. These revisions are consistent with the CWA and 40 CFR § 131.10, and are approved.

E. coli Bacteria (Section 27)

The duration of the *E. coli* criteria in Sections 27 (a) and (b) was changed from any "30-day period" to any "consecutive 60-day period." This duration component represents a critical exposure period during which the distribution of fecal indicator bacteria values should provide adequate protection for a population of recreational water users. During this critical exposure period, there should not be numerous events or lengthy period of time where very high levels of fecal indicator bacteria occur, as this could lead to an unacceptably high risk of illness.

Wyoming is not changing the criterion magnitude for the primary criterion (126 organisms/100mL), which reflects both EPA's 1986 and 2012 recommendations. The epidemiological studies used to develop the 1986 criteria were conducted over exposure periods of up to 8 weeks and the 2012 criteria

[4] See the EPA's September 29, 2008 action letter.

recommendations[5] were conducted over exposure periods of up to 90 days, thus making durations of 60 days scientifically defensible. EPA considers a duration of 60 days to represent an acceptable averaging period to protect recreational uses.

The EPA finds that the revised recreational criteria are scientifically defensible and protective of recreational uses for the reasons explained above. This revision is consistent with the CWA and 40 CFR § 131.11, and is approved.

Variances (Section 27)

Section 27(d) was deleted to resolve the EPA's disapproval of that provision because it allowed variances to the *E. coli* criteria outside the water quality standards rulemaking process.[2] This revision is consistent with the CWA and 40 CFR § 131.10, § 131.13, and § 131.20 and is approved.

Human Health Criteria

Section 18. Human Health

Section 18 was revised to indicate that site-specific criteria can be developed using "other scientifically defensible methods" other than those listed in Appendix E. This revision is consistent with the CWA and 40 CFR § 131.11(b)(1)(iii), and is approved.

Section 22. Radioactive Material

Section 22 was revised to delete an outdated incorporation by reference and include the radiological criteria of 5 pCi/L for combined radium-226 and radium-228, 15 pCi/L for gross alpha particle activity (excluding radon and uranium), 30 µg/L for uranium and 4 millirems per year for beta particle and photon radioactivity. This revision is consistent with the Maximum Contaminant Level (MCL)[6] for radionuclides established by the EPA under the Safe Drinking Water Act, the CWA and 40 CFR § 131.11, and is approved.

Appendix B

The scientific basis for the new and revised human health criteria in Appendix B are summarized below, and are based on the EPA's National Recommended Water Quality Criteria (NRWQC)[7] published pursuant to CWA § 304(a), or the MCL[6] or Secondary Maximum Contaminant Level (SMCL)[8] established by the EPA under the Safe Drinking Water Act. Where MCLs or SMCLs are referenced, there are no NRWQC or the NRWQC are less stringent.

[5] The EPA published revised recreational water quality criteria in December 2012 that the state should consider during the next triennial review. See http://water.epa.gov/scitech/swguidance/standards/criteria/health/recreation/.
[6] https://www.epa.gov/ground-water-and-drinking-water/table-regulated-drinking-water-contaminants
[7] https://www.epa.gov/wqc/national-recommended-water-quality-criteria-human-health-criteria-table
[8] https://www.epa.gov/dwstandardsregulations/secondary-drinking-water-standards-guidance-nuisance-chemicals

Parameter	New/ Revised	Human Health Criterion (µg/L)		Reference
		Fish & Drinking Water	Fish	
Acrolein	R	190 to 6	290 to 9	NRWQC
Chlorobenzene	R	100 to 20	-	NRWQC
1,1-Dichloroethylene	R	330 to 7	-	MCL and NRWQC
Phenol	R	-	1,700,000 to 860,000	NRWQC
Endrin	R	0.59 to 0.059	-	NRWQC
Toxaphene[9]	R	0.0028 to 0.00028	0.0028 to 0.00028	NRWQC
Cyanide (free)	R	200 to 140	220,000 to 140	NRWQC
Nickel	R	100 to 610	-	NRWQC
Silver	N	100	-	SMCL
Thallium[9]	R	2.4 to 0.24	4.7 to 0.47	NRWQC
Bromate	N	10	-	MCL
Chlorite	N	1,000	-	MCL
Haloacetic acids	N	60	-	MCL
Hexachlorocyclo-hexane-technical	N	0.0123	0.0414	NRWQC
Total trihalomethanes	N	80	-	MCL

Other revisions to Appendix B are summarized below.

- Footnotes 2 and 8 were revised from 6.5 to 17.5 grams per day to be consistent with the EPA's default consumption rate in the 2000 Human Health Methodology.
- The seven PCB compounds were consolidated into one listing and the wording of footnote 13 was revised to be consistent with the EPA's NRWQC.
- Previous footnote 6 was deleted from Appendix B and Bromoform, Dichlorobromomethane, Chlorodibromomethane, Anthracene, Fluorene, and Pyrene because none of the criteria had this footnote in the EPA's NRWQC.
- New footnote 6 was added to Cyanide to indicate the criterion reflects total cyanide, rather than free cyanide. This is consistent with the EPA's NRWQC.
- Trichlorfluoromethane was deleted from Appendix B because it is not included in EPA's NRWQC or the National Drinking Water Regulations.

The revisions described above improve the public health protections in Wyoming's WQS, and the EPA commends the Department and the Council for making these changes. The EPA concludes that the new and revised human health criteria discussed above are scientifically defensible and are consistent with the requirements of the CWA and 40 CFR § 131.11. Accordingly, these revisions are approved.

[9] This resolves the EPA's disapproval of this criterion in the September 29, 2008 action letter.

Non-Substantive Revisions

The EPA considers non-substantive revisions to existing WQS to constitute new or revised WQS that EPA has the authority and duty to approve or disapprove under CWA § 303(c)(3).[10] The EPA approves these non-substantive edits to ensure public transparency as to which provisions are effective for purposes of the CWA, including:

- Chapter 1 formatting changes, deletion of definitions not used in the text, rewording, corrections, clarifications; and
- Appendix B formatting changes, addition of synonyms for pollutants, and revisions to footnotes to indicate source of criterion.

WQS Approved Subject to ESA Consultation

Section 2. Definitions

The definition of "aquatic life" was revised to replace "exotic species" with "aquatic invasive species or other organisms" and now reads "means fish, invertebrates, amphibians and other flora and fauna which inhabit waters of the state at some stage in their life cycles. Aquatic life does not include human pathogen or insect pests, aquatic invasive species or other organisms which may be considered 'undesirable' by the Wyoming Game and Fish Department or U.S. Fish and Wildlife Service within their appropriate jurisdictions." In addition, the definition of "undesirable aquatic life" was revised to replace "exotic fish, or species which are designated 'undesirable'" with "insect pests, aquatic invasive species or other organisms which may be considered 'undesirable'." These revisions are consistent with the CWA and 40 CFR § 131.10(g), and are approved.

The definition of "effluent dependent water" was revised from a water body "that would be ephemeral without the presence of permitted effluent" to "with insufficient natural flow to support aquatic life." The remainder of the definition was unchanged. Wyoming made this change because water bodies other than those that are "ephemeral" may lack sufficient natural hydrology to support aquatic life, warranting consideration as effluent dependent through the UAA process. The change to this definition does not remove an aquatic life use for any water body. A UAA, consistent with 40 CFR § 131.10(g), must still be completed and submitted to the EPA for review and action in order to remove a designated use. The revision to the definition of "effluent dependent water" is consistent with the CWA and 40 CFR § 131.10(g), and is approved.

Section 3. Water Uses

The 3(b) "Fisheries" designated use description was changed to replace "game fish" with "cold water game fish" and "warm water game fish," and replace "exotic species" with "aquatic invasive species or other fish." In addition, the 3(g) "Aquatic life other than fish" designated use description was revised to replace "exotic species" with "aquatic invasive species or other organisms" to be consistent with the changes to the definition of "aquatic life" in Section 2. These revisions are consistent with the CWA and 40 CFR § 131.10(g), and are approved.

[10] See EPA's October 2012 *What is a New or Revised Water Quality Standard Under CWA 303(c)(3)?-- Frequently Asked Questions* available at https://www.epa.gov/sites/production/files/2014-11/documents/cwa303faq.pdf.

Section 4. Surface Water Classes and Uses

The 4(b) description of Class 2, Fisheries and Drinking Water was revised from "known to support fish or drinking water supplies" to "known to support fish and/or drinking water supplies" to reflect that some Class 2 waters are designated for both fish and drinking water uses, rather than one or the other. This revision is consistent with the CWA and 40 CFR § 131.10, and is approved.

Aquatic Life Criteria

Section 21. Protection of Aquatic Life

Section 21(a)(ii) was revised to add Class 2D, and Section 21(b) was revised to add Class 2D and 3D. Section 21(d) was revised to indicate that site-specific criteria can be developed using "other scientifically defensible methods" other than those listed in Appendix E. These revisions are consistent with the CWA and 40 CFR § 131.11, and are approved.

Section 23. Turbidity

Section (a) was revised from "cold water fisheries and drinking water supplies" to "cold water fisheries and/or drinking water supplies" to clarify that the turbidity criteria apply to both cold water fisheries and drinking water uses, whether or not these uses occur together on the same water body. This revision is consistent with the CWA and 40 CFR § 131.11, and is approved.

Appendix B

The scientific basis for the new and revised aquatic life criteria in Appendix B are the EPA's National Recommended Water Quality Criteria (NRWQC)[11] published pursuant to CWA § 304(a).

Parameter	New/ Revised	Aquatic Life Criterion (µg/L)	
		Acute	Chronic
Acrolein	N	3	3
Silver	R	3.4 to 1.7	-
Diazinon	N	0.17	0.17
Nonylphenol	N	28	6.6
Tributyltin	R	-	0.063 to 0.072

Other revisions to Appendix B are summarized below.

- Listing for Hydrogen Sulfide was revised to indicate the criterion is undissociated H_2S. This is consistent with the criterion derivation from the 1976 Quality Criteria for Water (The Red Book).
- The seven PCB compounds were consolidated into one listing and added footnote 13 to indicate the value applies to total PCBs. This is consistent with the EPA's NRWQC.

[11] https://www.epa.gov/wqc/national-recommended-water-quality-criteria-aquatic-life-criteria-table

- New footnote 16 was added to the acute aquatic life criteria for Aldrin, Chlordane, DDT, alpha-Endosulfan, beta-Endosulfan, Heptachlor, Heptachlor epoxide, and Silver. This footnote indicates that these criteria are divided by two to be comparable with other acute values derived using an averaging period is consistent with the EPA's NRWQC.

The new and revised aquatic life criteria in Appendix B criteria are consistent with the EPA's NRWQC, the CWA and 40 CFR § 131.11. Accordingly, these revisions are approved.

Appendix D

The asterisk (*) paragraph was revised to change "2A" to "2AB" to be consistent with Section 24 and indicates the dissolved oxygen criteria apply only to waters with fish as a designated use. This revision is consistent with the CWA and 40 CFR § 131.11, and is approved.

Appendix F

Section (a)(ii) was revised to indicate the conversion factors for cadmium and lead vary with hardness and should not exceed one when ambient hardness is less than 25 mg/L. This is consistent with the EPA's guidance on the calculation of hardness-dependent metals criteria in the NRWQC. Section (b) was revised to add 0.5 and footnote (c) to the Silver formula to be consistent with the EPA's NRWQC. These revisions are consistent with the CWA and 40 CFR § 131.11, and are approved.

Provisions the EPA is Not Taking Action on Today

There are several provisions on which the EPA is not taking action. These include those that are not WQS requiring EPA review and approval under CWA § 303(c):[10]

- Section 10 Testing Procedures;
- Section 27 language addressing minimum sample size;
- Appendix E; and
- Implementation Policies for Antidegradation, Mixing Zones and Dilution Allowances, Turbidity Use Attainability Analysis.

Additionally, there are three WQS provisions still under review:

- Section 25(e); and,
- Appendix B, Footnotes 10 and 11.

B.3. Powder River Basin Resource Council, Wyoming Outdoor Council, Protect Our Water Jackson Hole

Powder River Basin Resource Council
Wyoming Outdoor Council
Protect Our Water Jackson Hole

November 13, 2024

RE: Comments on Wyoming Department of Environmental Quality's Revised Proposed Revisions to Chapter 1 (Wyoming Surface Water Quality Standards) and Chapter 2 (Permit Regulations for Discharges to Wyoming Surface Waters) of the Wyoming Water Quality Rules and Regulations. Comments Prepared for the organizations by water quality experts: Joseph S. Meyer, PhD and Harold L. Bergman, PhD

Dear Water Quality Division and Water and Waste Advisory Board:

Thank you for the opportunity to comment on the proposed revisions to Water Quality Rules, Chapter 1, Wyoming Surface Water Quality Standards, and corresponding proposed revisions to Water Quality Rules, Chapter 2. Powder River Basin Resource Council, Wyoming Outdoor Council and Protect Our Water Jackson Hole represent thousands of Wyomingites who want to see surface water quality protected for current and future generations. Please accept and fully consider the following prepared comments and recommendations on the proposed revisions.

Major Comments

1. p. 1-20, lines 864-866, now numbered as Section 16(e): On page 19 of the WDEQ responses to comments file, USEPA commented on the inconsistency between Section 15(h) (which does not specify an exceedance frequency for pH excursions above and below the allowed range of 6.5-9.0, with reference to protection of all surface waters of the State) and Section 16(f) (which specifies an acceptable exceedance frequency of once every three years for pH excursions, with reference to protection of aquatic life). WDEQ responded by stating "… WDEQ-WQD has applied the one-in-three-year exceedance frequency to protection of aquatic life uses and not applied the one-in-three-year exceedance frequency to other designated uses." Although that might have been WDEQ's previous approach, **We recommend that WDEQ remove the inconsistency and adopt USEPA's suggestion to "….delet[e] the criteria at 16(f) to eliminate confusion and to**

protect waters with an aquatic life use equally to those without one."

2. pp. 1-22 to 1-23, now numbered as Section 16(h): We support USEPA's recommendation that "Wyoming update its numeric ammonia criteria to reflect the EPA's 2013 recommendations and apply numeric criteria to all aquatic life designated uses, including those intended to protect organisms other than fish" (page 22 of the WDEQ responses to comments file). Although WDEQ stated that it "plans to review EPA's 2013 recommended ammonia criteria during a subsequent triennial review", **We recommend that WDEQ not wait to revise the ammonia values until a future triennial review that will occur years or decades from now.**

3. pp. 1-24 to 1-26, Table 7: Consistent with USEPA's request for justification on page 7 of the WDEQ responses to comments file, **we recommend that WDEQ modify Table 7 by adopting USEPA's nationally recommended CWA Section 304(a) criteria that have become available since Wyoming's most recent triennial review, and also reconsider any other entries in Table 7 that could be replaced by more-recent USEPA-recommended criteria.**

4. p. 1-24, Table 7: On pages 19-20 of the WDEQ responses to comments file, USEPA commented that WDEQ specifies the acute and chronic values listed for aluminum in Table 7 are to be interpreted as the dissolved fraction, but USEPA in its nationally-recommended aquatic life criteria recommends that those same values are to be interpreted as the total recoverable fraction. USEPA correctly pointed-out that interpreting the tabulated numbers as the dissolved fraction will underestimate aluminum toxicity, and WDEQ responded by correctly pointing out that interpreting the tabulated numbers as the total recoverable fraction will overestimate aluminum toxicity. Erring on the under protective side, WDEQ chose to continue interpreting the tabulated values as the dissolved fraction – despite the fact that WDEQ is supposed to protect the environment and therefore should err on the side of overprotection instead of under protection when given that binary choice. **We recommend that, in Table 7, WDEQ change "Aluminum, Dissolved" to "Aluminum, Total Recoverable".** WDEQ can revise the acute and chronic aluminum values and(or) the specified analytical fraction to more appropriate values when it reviews EPA's 2018 nationally-recommended aluminum criteria during a subsequent triennial review.

5. p. 1-36, Table 10: In the matrix cell for "Single Sample Maxima" under "Full Body Contact Water Recreation During the Summer Recreation Season" in Table 10, WDEQ has reverted to *E. coli* values for the four use-intensity categories that were included in Section 27 in the 2018 version of Chapter 1 (i.e., the following four categories: high-use swimming areas, moderate full body contact, lightly used full body contact, and infrequently used full body contact). Each category has a different *E. coli* value assigned to it, and the values increase as the intensity of use of the water body decreases (i.e., increasing from 235 organisms allowed per 100 ml for high-use swimming areas to 576

organisms allowed per 100 ml for infrequently used full body contact). We do not believe such differentiation among use-intensity categories is protective of human health, because people do not magically become more resistant to *E. coli* infection simply because those people swim in a less-intensively-used water body. People deserve the same level of protection from exposure to coliform bacteria wherever they swim, regardless of the intensity of the use of that water body. WDEQ does not, for example, stratify water quality criteria for exposure of fish and other aquatic life to priority pollutants based on how many fish are in a given water body, and the groups believe WDEQ should treat exposure of humans to *E. coli* in an analogous manner. **Therefore, we recommend that, in Table 10, WDEQ specify only one single-sample maximum for *E. coli* that equals 235 organisms per 100 ml – the level of protection proposed by WDEQ for high-use swimming areas.**

6. p. 2-31, line 1261, Section 4(p)(i)(D): **We suggest inserting "and inactive" after "active", because a substance that might be considered an inactive ingredient in a given pesticide formulation might still have the potential to impair humans and(or) aquatic organisms.** Therefore, WDEQ should be notified of all substances in all pesticide (and other) formulations, to be able to better evaluate the potential of the formulation for causing adverse impacts.

Minor Comments

1. p. 1-8, Table 1, footnote e: We suggest inserting "on average" after "every five years" at the end of the last sentence, to be consistent with the frequency statements elsewhere.

2. p. 1-17, lines 709-711, Section 14(b)(v): Because the North Platte River flows into Colorado, "from the mouth of Sage Creek (approximately 15 stream miles downstream of Saratoga, Wyoming) upstream to the Colorado state line" does not appear to be stated correctly. We suggest either (a) changing "upstream" to "downstream" or (b) deleting "upstream".

3. p. 1-17, lines 735-736, Section 14(b)(xiii): Because the mainstem of the Clarks Fork River flows into Montana, "from the U.S. Forest Service boundary upstream to the Montana state line" does not appear to be stated correctly. We suggest either (a) changing "upstream" to "downstream" or (b) deleting "upstream".

4. p. 1-23, Table 4: We suggest stating in the table caption or in a footnote, that pH in the equations is expressed as standard units and temperature (T) is expressed in degrees Celsius.

5. p. 1-23, Table 5:
    a. We suggest inserting ")" at the end of the equation for "Cadmium, Dissolved".
    b. We suggest inserting "as" before "calcium carbonate" in footnote a.

c. We suggest revising footnote c to "Use a value of 1.0 for the portion of the equation after the "*", if the calculated value of that portion of the equation exceeds 1.0."

6. p. 1-24, Table 6:
   a. We suggest inserting ")" at the end of the equation for "Cadmium, Dissolved".
   b. We suggest inserting "as" before "calcium carbonate" in footnote a.
   c. We suggest revising footnote b to "Use a value of 1.0 for the portion of the equation after the "*", if the calculated value of that portion of the equation exceeds 1.0."

7. p. 1-36, line 1055, Section 23(b)(i): We suggest that "scenic value" be defined. The statement about scenic value on page 1-13 is not specifically a definition.

8. p. 1-36, line 1069, Section 24(b)(i): We suggest that "wildlife" be defined. The statement about wildlife on page 1-13 is not specifically a definition. Without specific guidance, wildlife might be interpretated variously as (a) all animals, (b) all vertebrate animals (game and non-game), (c) all game animals, or (d) other categories.

Editorial Suggestions

1. p. 1-8, line 340, Section 8(d): We suggest inserting "be" between "will" and "used".

2. p. 1-8, Table 1, footnote e:
   a. We suggest deleting "or water level" after "The harmonic mean flow", to be consistent with the removal of "water level" elsewhere.
   b. We suggest changing "flow" to "flows" in "the reciprocals of the daily flow" at the end of the first sentence.

3. p. 1-36, Table 10:
   a. We suggest hyphenating "Single sample" in the row header "Single Sample Maxima" and in footnote a, to be consistent with its hyphenation elsewhere.
   b. We suggest changing "maxima" to "maximum" in the second sentence of footnote a.

5. p. 1-34, lines 990-991, Section 18(b)(iii): We suggest changing "effluent-dependent human consumption of fish" to "human consumption of effluent-dependent fish", to be consistent with wording elsewhere about effluent-dependent fish.

6. p. 2-4, line 163, Section 2(b)(ix)(F): We suggest changing "insure" to "ensure" in the last sentence of this paragraph.

Conclusion

Thank you for the consideration of these comments on the proposed revisions to Water Quality Rules, Chapter 1, Wyoming Surface Water Quality Standards, and corresponding proposed revisions to Water Quality Rules, Chapter 2.

Sincerely,

David Romtvedt

David Romtvedt, Chair
Powder River Basin Resource Council

Alec Underwood
Program Director
Wyoming Outdoor Council

Dan Heilig

Dan Heilig
Senior Policy Advisor
Protect Our Water Jackson Hole