

RULE MAKING OUTREACH DOCUMENT

Proposed Rule Revision

**Surface Water Quality Standards
Chapter 1
Wyoming Water Quality
Rules and Regulations**

Triennial Review



September 12, 2011

Background

Section 303(c) of the Clean Water Act provides states, tribes, and territories with the primary authority and responsibility to establish water quality standards for waters of the U.S. within their respective jurisdictions. In Wyoming, the surface water quality standards are administered by the Wyoming Department of Environmental Quality (WDEQ) Water Quality Division (WQD) and are contained in Chapter 1 of the Wyoming Water Quality Rules and Regulations (Chapter 1), which was last revised and adopted in April 2007. The water quality standards contained in Chapter 1 must be reviewed at least once every three years, at which time existing standards can be modified and new standards adopted as appropriate. Following adoption by the state, the standards are submitted to the Environmental Protection Agency (EPA) for review to determine whether they meet the goals and requirements of the Clean Water Act. This review and update process is often referred to as the triennial review.

Opportunity for Public Recommendations

As a preliminary step in the rule making process, the WQD is seeking public comment regarding several proposed revisions to Chapter 1. Revisions include: resolution of EPA disapprovals from the last rule making, updates of numeric criteria for priority and non-priority pollutants to the most recent federal recommendations, and correction of a number of omissions, errors, or inconsistencies that have been identified since the most recent update in April 2007. The public is encouraged to submit comments and recommendations on the proposed modifications and to provide suggestions for additional modifications that should be considered in this rule making. Any suggested revision must include sufficient rationale, including scientific information to support the proposed change.

A public meeting will be held at the Wyoming Oil and Gas Conservation Commission hearing room located at 2211 King Boulevard, Casper, WY, on **October 13, 2011** from 9:00 a.m. to 12:00 p.m. Oral comments are encouraged at the public meeting and written comments will be accepted until **October 21, 2011**. Written comments should be addressed to Lindsay Patterson, DEQ/WQD, Herschler Building 4-W, 122 West 25th Street, Cheyenne, Wyoming 82002 or faxed to 307-777-5973. **E-mailed comments will not be accepted.** Questions may be directed to Lindsay Patterson at 307-777-7079 or lindsay.patterson@wyo.gov.

Rule Adoption Process

After reviewing public comment from this outreach, a draft document which incorporates the revisions to Chapter 1 of the Wyoming Water Quality Rules and Regulations will be prepared. Next, the Water Quality Administrator approves and advances the draft revisions of Chapter 1 to the Water and Waste Advisory Board (Advisory Board). The draft revisions will again be open to public comment at a hearing to be held before the Advisory Board. After consideration of

public comment, the Advisory Board will either recommend advancing the rules to the Environmental Quality Council (council) or request that the rules be revised further and brought before them again. The draft will be revised based on recommendations of the Advisory Board and ultimately be advanced to the council. Additional opportunity for public comment will occur during a public hearing held by the council. The council will determine whether the revised rules will be recommended for adoption, sent to the governor for approval, to the Legislative Service Office for review, and the secretary of state for certification. Following adoption and certification by the state, the standards are submitted to EPA for review to determine whether they meet the goals and requirements of the Clean Water Act.

Purpose of this Proposed Revision

In this rule making, the WDEQ/WQD proposes updating the surface water quality standards to meet current national recommendations. The proposed revisions are intended to protect and maintain the water quality of the surface waters of the state, thereby achieving the goals of the Clean Water Act. These goals will be accomplished by designating protected uses on all waters, setting appropriate water quality criteria according to use designation, and applying an antidegradation policy to maintain water quality on waters with water quality better than numeric criteria.

In addition to revising Chapter 1, the *Implementation Policies for Antidegradation, Mixing Zones, Turbidity, Use Attainability Analysis, and Agricultural Use Protection* will be amended as necessary to accommodate changes in the rules. These policies are not rules or regulations, but provide additional clarification and/or guidance on the implementation of various rules contained in Chapter 1.

Proposed Revisions

General

When referring to specific classes of Wyoming surface waters, “class” or “classes” of surface waters were changed to “Class” or “Classes” for consistency.

References to “Federal Clean Water Act”, “federal Clean Water Act”, and “Federal Act” in Sections 2(b)(xl), 2(b)(xliv), 2(b)(xlix), 2(b)(lvii), 2(b)(lx), 3, 25(f) were changed to “Clean Water Act” for consistency.

In instances in which the first letters of “Use Attainability Analysis” were capitalized, they were changed to lower case, as in “use attainability analysis”, to be consistent with the definition in Section 2(b)(liv) and use of the term in the Code of Federal Regulations (CFRs). These are located in Sections 4(e), 33(b), 33(c), and 34.

The first mention of “administrator” in Section 8(b) was changed to “Water Quality Administrator (administrator)” and all subsequent references to the “Water Quality Administrator” or “Water Quality administrator” in the document were changed to “administrator” for consistency with the Environmental Quality Act. These are located in Sections 33(b), 33(c), 34, and 36.

The first mention of “Department of Environmental Quality” in Section 2(b)(li) was followed by (department) and each subsequent reference to the “Department of Environmental Quality” was replaced with “department” for consistency with the Environmental Quality Act. These are located in Sections 4(e), 8(a), 21(f)(iv), 21(f)(v), and 21(f)(vi), Appendix A (b)(ii)(A), Appendix A (b)(ii)(B), and Appendix B footnote 14.

The first mention of “Environmental Quality Council” in Section 4(a) was followed by (council) and each subsequent reference to the “Environmental Quality Council” was replaced with “council” for consistency with the Environmental Quality Act. These are located in Sections 4(e), 33(a), 33(b), 33(c), and 34(b).

Section 1. Authority.

The acronym “W.S.” was defined as “Wyoming Statutes” in the text to provide clarification for readers unfamiliar with the statutes cited. W.S. 35-11-101 through 1507 was updated to W.S. 35-11-101 through 35-11-1803 to be consistent with the definition of the Environmental Quality Act at W.S. 35-11-103(a)(xiii). A reference to the definition of the Environmental Quality Act, W.S. 35-11-103(a)(xiii), was added to provide clarification for readers unfamiliar with the Environmental Quality Act.

Section 2. Definitions.

In (a) and (b), the word “section” was removed and replaced with “W.S.” to be consistent with other references to Wyoming Statutes within the document.

In (b)(viii), (xii), (xxiii), and (lv), references to “Genus” and “Species” were changed from upper case to lower case to be consistent with convention. References to multiple genera were corrected from “genus” to “genera”. The genus for walleye and sauger was changed from “*Stizostedion*” to “*Sander*” to reflect changes in nomenclature.

The additional parentheses present between (b)(xx) and b(xxi) was removed.

The date cited in (b)(xxi) was updated from “June 21, 2001” to “November 27, 2002,” to reflect the most recent amendments to the Federal Water Pollution Control Act (Clean Water Act).

The abbreviation for micrograms per liter at (b)(xxx) was revised from “mg/L” to “µg/L.”

The reference cited in the definition of “nongame fish” at (b)(xxxix) was updated from “Section 2(b)(xx)” to “Section 2(b)(xxiii).”

Reference to “Chapter 18” within the definition at (b)(xlix) was removed, as Chapter 18 is no longer in use.

The reference cited at (b)(lviii) was changed from “Section 2(b)(xlv)” to “Section 2(b)(l).”

Section 3. Water Uses.

Language in (a) was modified from “irrigation or stock watering” to “irrigation and/or livestock watering” to reflect situations where water is designated for both irrigation and livestock uses.

Section 4. Surface Water Classes and Uses.

The wording of Class 2, Fisheries and Drinking Water, at 4(b) was changed from “known to support fish or drinking water supplies” to “known to support fish and/or drinking water supplies” to reflect the fact that some categories of Class 2 waters are designated for both fish and drinking water uses, rather than one or the other.

The sentence “New information made available to the department may be cause to amend the classifications.” was removed to help avoid confusion that changes to classifications can be made outside of the use attainability analysis process outlined previously in the paragraph.

Section 5. Standards Enforcement.

The title of the implementation policies document was capitalized and italicized. Other references to documents or databases that were either underlined or in quotations were put in italics for consistency.

Section 7. Class 1 Waters.

Language used in (a) was changed from “paragraph (b)” to “Section 7(b) of these regulations” for clarification.

Section 9. Mixing Zones.

The reference to the “Mixing Zone and Dilution Allowances Policy” was revised to *Mixing Zones and Dilution Allowances Implementation Policy* to be consistent with the title in the implementation policies document.

Section 11. Flow Conditions.

The two sentences “Low flow can be determined by the following methods.” and “Whatever method is selected for a specific situation, application of the standards will conform to the magnitude, frequency, and duration provisions as described in these regulations.” in (a) were combined by a semi-colon and the period at the end of the sentence replaced with a colon to reflect the list of methods that follows.

Section 18. Human Health.

The wording of this section was changed to “In all Class 1, 2AB, and 2A waters, the human health consumption of fish and drinking water values listed in Appendix B of these regulations shall not be exceeded. In all Class 2B, 2C, and 2D waters, the human health consumption of fish (consumption of aquatic organisms) values shall not be exceeded. “

Section 21. Protection of Aquatic Life.

The order of the Classes of water in (a)(i) were changed from “Class 1, 2A, 2B, 2AB and 2C” to “Class 1, 2AB, 2A, 2B, and 2C” to be consistent with the order in which the classes of waters are typically listed.

“2D” was added to (a)(ii) to reflect the addition of effluent dependent waters during the last triennial review.

The sentence in (b) “These standards apply to all Class 1, 2A, 2B, 2C, 3A, 3B and 3C waters” was changed to “These standards apply to all Class 1, 2, and 3 waters” to include effluent dependent waters, which are Classes 2D and 3D. Numeric acute and chronic values outlined in Appendix B for protection of aquatic life apply to effluent dependent waters

except in situations where site specific criteria has been developed through the process outlined in Section 36 of Chapter 1.

Section 22. Radioactive Material.

Section 22(a) has been modified to specify radiological limits of 5 pCi/L for combined radium-226 and radium-228, 15 pCi/L for gross alpha particle activity (excluding radon and uranium) and 30 µg/L for uranium in waters designated for drinking water uses (i.e. Class 1, 2AB, and 2A waters). These numeric limits are the maximum contaminant levels for radionuclides published at 40 CFR 141.66. The previously referenced 40 CFR 141.15 and 141.16, published July 1, 1998, have been removed from the Code of Federal Regulations (CFR). Specifying numeric limits, rather than referencing the most recent Federal Primary Drinking Water Standards allows the WDEQ to determine when and under what conditions to propose and adopt new standards.

Section 25. Temperature.

The abbreviation “F” was revised to “Fahrenheit” and the abbreviation “C” was revised to “Celsius” for clarification.

Section 27. *E. coli* Bacteria.

Section 27(a) has been revised to read “All waters are designated for primary contact recreation during the summer recreation season (May 1 through September 30) unless the water has been designated for secondary contact recreation through the reclassification and use attainability analysis process outlined in Sections 33 and 34 of these regulations. In all waters designated for primary contact recreation, during the summer recreation season, concentrations of *E. coli* bacteria shall not exceed a geometric mean of 126 organisms per 100 milliliters based on a minimum of five samples collected at least four days apart during any consecutive 30-day period. During the period October 1 through April 30, all waters are protected for secondary contact recreation only.”

The following was removed from (a) “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 a disapproval by EPA in a September 2009 action letter. EPA disapproved removing primary contact recreation use from a large number of waters because a use attainability analysis (UAA) had not been conducted. EPA’s interpretation of Clean Water

Act Section 101(a)(2) is that aquatic life and primary contact recreation are attainable on all waters, unless it can be demonstrated through a UAA that the uses are not attainable.

To address this disapproval, WDEQ is currently developing a statewide categorical recreational use UAA using Geographic Information Systems (GIS). The model will allow the state to determine waters which are most appropriately designated for primary contact recreation and those most appropriately designated for secondary contact recreation.

The period between sampling collection events was changed from “separate 24 hour periods” to “at least four days apart” to encourage more even spacing of sample collection over the entire 30-day period. The *E. coli* criteria are derived from EPA. 1986. *Quality Criteria for Water 1986. EPA 440/5-86-001. Office of Water Regulations and Standards, Washington, D.C.*, which specifies that the geometric mean be “based on a statistically sufficient number of samples (generally not less than five samples equally spaced over a 30-day period).”

Section 27(b) was modified to read “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 five samples collected at least four days apart during any consecutive 30-day period. Waters will be designated for secondary contact recreation through the reclassification and use attainability analysis process outlined in Sections 33 and 34 of these regulations.”

Sub-section (d), Variances, “Temporary and/or permanent variances to the *E. coli* values provided in (a) through (c) above may be granted in instances where the primary source of bacterial contamination is found to be natural in origin (wildlife), unavoidable (off-channel stock watering pits), or otherwise in the public interest.” was removed based on disapproval by EPA in a September 2009 action letter. EPA’s concern with variances was that *E. coli* criteria could be established outside of the State’s water quality standards rule making process and establishment of these criteria would be inconsistent with the Clean Water Act and the Code of Federal Regulations.

Section 33. Reclassifications and Site Specific Criteria.

The word “flow” was added to b(v) to be consistent with the wording of factor (5) at 40 CFR (Code of Federal Regulations) 131.10(g). The six factors outlined in (b)(i) through (b)(vi) are taken directly from 40 CFR 131.10(g)(1) through 131.10(g)(6).

Section 36. Effluent Dependent Criteria.

The formatting of this section was changed to follow Section 6, Format for Final Rules Submitted for Filing, Chapter 1, Wyoming Secretary of State Rules on Rules. Specifically, the periods following lower case “a” and “b” were removed and replaced with parentheses and the numbers 1-4 under “a” and 1-3 under “b” were replaced with lower case roman numerals in parentheses.

Appendix A. Wyoming Surface Water Classifications.

The upper case letters of “Main Stem” at (a)(iv) was changed to lower case to be consistent with the remainder of the Class 1 waters.

The wording of (a)(x) was changed from “The main stem of the Tongue River, the main stem of the North Fork of the Tongue River, and the main stem of the South Fork of the Tongue River above the U.S. Forest Service Boundary” to “The main stem of the North Fork of the Tongue River, the main stem of the South Fork of the Tongue River, and the main stem of the Tongue River above the U.S. Forest Service boundary” to avoid confusion. Both the North Fork Tongue River and South Fork Tongue River are entirely within the U.S. Forest Service boundary, while the main stem of the Tongue River flows across the U.S. Forest Service boundary.

The formatting of this section was changed to follow Section 6, Format for Final Rules Submitted for Filing, Chapter 1, Wyoming Secretary of State Rules on Rules. Specifically, the numbers (1), (2), and (3) were changed to (A), (B), and (C) and the letters (A), (B), (C), and (C) were changed to (I), (II), (III), and (IV).

The following was deleted from (b) “published and periodically updated by the Wyoming Department of Environmental Quality, Water Quality Division,” to help avoid confusion that changes to classifications can be made outside of the use attainability analysis process outlined in Sections 33 and 34 of Chapter 1.

Appendix B.

(a) Priority Pollutants.

The list of water quality numeric criteria for priority pollutants has been updated to conform to the most recent federal recommendations. The two basic sources for the criteria are the Clean Water Act, Section 304(a) recommended criteria (2009 revision), [*National Recommended Water Quality Criteria 2009*](#), or the Safe Drinking Water Act (SDWA)

[National Drinking Water Regulations, May 2009](#) and last updated at [40 CFR 141 July 1, 2011](#). When a lower organoleptic (i.e. taste and odor) value is presented within the *National Recommended Water Quality Criteria*, the organoleptic value is used as the human health consumption of fish and drinking water value. In general, where Section 304(a) and SDWA publish different values for the same pollutant, the more stringent value is included in Appendix B.

Exceptions to the above rule are arsenic and mercury. The human health criteria for arsenic, 10 µg/L, are the maximum contaminant levels (MCL) taken from the SDWA. The *National Recommended Water Quality Criteria* for human health consumption of fish and drinking water and human health consumption of fish for arsenic are 0.018 µg/L and 0.14 µg/L, respectively. The footnote “9” was added to the human health criteria for arsenic to indicate that they are derived from the SDWA. The decision to use the SDWA MCL was made in a previous Chapter 1 revision that dealt specifically with arsenic. The human health criteria for mercury are derived from the *1999 National Recommended Water Quality Criteria*. More recent versions of the 304(a) criteria recommend the adoption of a fish tissue concentration standard for methylmercury of 0.3 mg/kg; however, adoption of EPA’s first fish tissue based standard by WDEQ will require additional time and planning to implement.

Priority pollutants are listed in the order they are found on the EPA priority pollutants list that can be accessed here: [EPA's Priority Pollutants](#). The pollutants which are contained in this list that do not occur in the priority pollutants list in Appendix B are those for which no 304(a) criteria currently exist.

General:

Superscripts were moved from the pollutant name to the value to be more consistent with the *National Recommended Water Quality Criteria*. In instances where (HM) and (PAH) followed a particular pollutant in the priority pollutant list, they were removed. HM, referring to halomethane compounds and PAH, referring to polycyclic aromatic hydrocarbons, were removed because the compounds that were labeled did not include all of the HM or PAH compounds in the list, nor were the abbreviations defined in the document.

Specific Pollutants:

Acrolein. Aquatic life acute and chronic values were updated to 3 µg/L. Human health consumption of fish and drinking water value was updated to 6 µg/L and human health consumption of fish value was revised to 9 µg/L based on the *National Recommended Water Quality Criteria*.

Chlorobenzene. The human health consumption of fish and drinking water value was updated from 100 µg/L to 20 µg/L to reflect the lower organoleptic effects value in the *National Recommended Water Quality Criteria*. The footnote was also changed from “9” to “7” to indicate that the new value is an organoleptic effects value.

1,1-Dichloroethylene. The human health consumption of fish and drinking water value was updated from 330 µg/L to 7 µg/L to reflect the lower maximum contaminant level (MCL) in the *National Primary Drinking Water Regulations*. The footnote “9” was added to indicate the source of the value.

Phenol. The human health consumption of fish value was revised from 1,700,000 µg/L to 860,000 µg/L to be consistent with the *National Recommended Water Quality Criteria*.

Endrin. The human health consumption of fish and drinking water value was revised from 0.59 µg/L to 0.059 µg/L to be consistent with the *National Recommended Water Quality Criteria*.

Polychlorinated Biphenyls (PCBs). The seven PCB compounds were consolidated to one entry to be consistent with the *National Recommended Water Quality Criteria*. The aquatic life chronic, human health consumption of fish and drinking water, and human health consumption of fish values apply to total PCBs, rather than individual PCB compounds. The footnote “13” was added to the aquatic life chronic value to indicate that the value applies to total PCBs.

Toxaphene. The human health consumption of fish and drinking water and human health consumption of fish values were updated from 0.0028 µg/L to 0.00028 µg/L to be consistent with the *National Recommended Water Quality Criteria*.

Cyanide. The human health values for cyanide were revised to 140 µg/L to be consistent with the *National Recommended Water Quality Criteria*. The previous human health consumption of fish and drinking water value, 200 µg/L, was the MCL from the National Primary Drinking Water Regulations. The previous human health consumption of fish value, 220,000 µg/L, was the value recommended in the 2002 *National Recommended Water Quality Criteria*. The superscript “6” was added to the human health values to indicate that the values reflect total cyanide, rather than free cyanide. The aquatic life values for cyanide represent free cyanide.

Nickel. The human health consumption of fish and drinking water value for nickel was revised from 100 µg/L to 610 µg/L to be consistent with the *National Recommended Water Quality Criteria*. The previous value, 100 µg/L, was a MCL from the *National Drinking*

Water Regulations, but the criterion was remanded in 1995. The *National Drinking Water Regulations May 2009* and July 1, 2011, 40 CFR 141.62, Maximum Contaminant Levels for Inorganic Compounds, does not include nickel.

Silver. A human health consumption of fish and drinking water value, 100µg/L, based on the *National Secondary Drinking Water Standards* for silver was added to be consistent with other parameters in Appendix B. The hardness dependent aquatic life acute value, even at the maximum hardness of 400 mg/L, is lower than 100 µg/L, and will be used for any waters designated for aquatic life (i.e. Class 1, 2, and 3 waters).

Thallium. The human health consumption of fish and drinking water value was changed from 2.4 µg/L to 0.24 µg/L and the human health consumption of fish value changed from 4.7 µg/L to 0.47 µg/L to be consistent with the *National Recommended Water Quality Criteria*.

(b) Non-Priority Pollutants. As with priority pollutants, the list of water quality criteria for non-priority pollutants has been updated to conform to the most recent federal recommendations with important exceptions for aluminum, barium, and chloride that were addressed during the previous Chapter 1 revisions.

During the 2007 revision, the footnote relating to the aquatic life values for aluminum was changed to indicate that the numeric values for aluminum refer to the dissolved metal fraction rather than the total recoverable fraction. The nationally recommended criteria developed by EPA refer to the total recoverable. The rationale for using the dissolved metal fraction is that many Wyoming waters carry in suspension naturally occurring clays with concentrations of aluminum silicate several orders of magnitude higher than the nationally recommended criteria. Aluminum silicate is not toxic to aquatic life but is detectable when the water is analyzed for total recoverable metal. This results in the total recoverable criteria being only marginally effective for aquatic life protection purposes. Analyzing for dissolved metal involves filtering out the particulate aluminum prior to analysis, thus giving a better indication of the aluminum fraction that is actually bio-available.

The human health value for barium, 2000 µg/L, is the MCL established under the SDWA instead of the *National Recommended Water Quality Criteria* recommended value of 1000 µg/L. This decision was made in a previous Chapter 1 rulemaking that dealt specifically with the barium criteria.

During the 2007 revision, a footnote was added to the aquatic life values for chloride to indicate that the values apply on Class 1, 2AB, 2B, and 2C waters only. Applying the

numeric chloride criteria to many waters in the west is problematic due to naturally high chloride concentrations.

Bromate. Bromate was added to the list of non-priority pollutants with a human health consumption of fish and drinking water value of 10 µg/L. Bromate is a byproduct of drinking water disinfection and is included in the *National Primary Drinking Water Regulations* and listed at 40 CFR 141.64, Maximum Contaminant Levels for Disinfection Byproducts.

Chlorite. Chlorite was added to the list of non-priority pollutants with a human health consumption of fish and drinking water value of 1,000 µg/L. Chlorite is a byproduct of drinking water disinfection and is included in the *National Primary Drinking Water Regulations* and listed at 40 CFR 141.64, Maximum Contaminant Levels for Disinfection Byproducts.

Diazinon. Diazinon was added to the list of non-priority pollutants. Aquatic life acute and chronic values, both 0.17 µg/L, were inserted to be consistent with the *2009 National Recommended Water Quality Criteria*. Diazinon was added to the *National Recommended Water Quality Criteria* in 2006. The change is also noted at the following Federal Register Notice: <http://www.epa.gov/fedrgstr/EPA-WATER/2006/February/Day-23/w2558.htm>

Haloacetic acids. Haloacetic acids were added to the list of non-priority pollutants with a human health consumption of fish and drinking water value of 60 µg/L. Haloacetic acids are a byproduct of drinking water disinfection and are included in the *National Primary Drinking Water Regulations* and listed at 40 CFR 141.64, Maximum Contaminant Levels for Disinfection Byproducts.

Hexachlorocyclo-hexane-technical. Hexachlorocyclo-hexane-technical was added to the list of non-priority pollutants with human health consumption of fish and drinking water value of 0.0123 µg/L and a human health fish only value of 0.0414µg/L. Hexachlorocyclo-hexane-technical has been included in the list of *National Recommended Water Quality Criteria* since 1999.

Nonylphenol. Nonylphenol was added to the list of non-priority pollutants. Aquatic life acute and chronic values, 28 µg/L and 6.6 µg/L, respectively, were inserted to be consistent with the *2009 National Recommended Water Quality Criteria*. Nonylphenol was added to the *National Recommended Water Quality Criteria* in 2006. The federal register notice can be found here: <http://www.epa.gov/fedrgstr/EPA-WATER/2006/February/Day-23/w2558.htm>.

Tributyltin (TBT). The aquatic life chronic value was revised from 0.063 µg/L to 0.072 µg/L to be consistent with the *National Recommended Water Quality Criteria*. The value changed from 0.063 µg/L in the 2002 *National Recommended Water Quality Criteria* to 0.072 µg/L in the 2006 *National Recommended Water Quality Criteria*. The change is also noted at the following Federal Register Notice: <http://www.epa.gov/fedrgstr/EPA-WATER/2004/January/Day-05/w082.htm>.

Trichlorfluoromethane. This pollutant was removed from the list of non-priority pollutants, as it was not found in either the *National Recommended Water Quality Criteria* or the *National Drinking Water Regulations*.

Total trihalomethanes (TTHM). Total trihalomethanes (TTHM) were added to the list of non-priority pollutants with a human health consumption of fish and drinking water value of 80 µg/L. Total trihalomethanes are a byproduct of drinking water disinfection and are included in the *National Primary Drinking Water Regulations* and listed at 40 CFR 141.64, Maximum Contaminant Levels for Disinfection Byproducts.

Footnotes

The quantity of aquatic organisms consumed per day noted in footnotes 2 and 8 was updated from 6.5 to 17.5 grams per day to reflect changes made to EPA's default consumption rate in 2000 when the Human Health Methodology was revised.

The previous footnote 6, "Chemicals which are not individually classified as carcinogens but which are contained within a class of chemicals with carcinogenicity as the basis for criteria derivation for that class of chemicals; an individual carcinogenicity assessment for these chemicals is pending" was deleted because no values had this footnote in the *National Recommended Water Quality Criteria*. The revised footnote 6 applies to the human health values for cyanide and reads "Criterion expressed as total cyanide, even though the method used to derive the criterion is based on free cyanide. If a substantial fraction of the cyanide present in a water body is present in a complexed form (e.g. $\text{Fe}_4[\text{Fe}(\text{CN})_6]_3$), this criterion may be overly conservative."

Footnote 11, "The iron and manganese criteria are based on Safe Drinking Water Act secondary standards and are intended to prevent undesirable aesthetic effects. These values represent the dissolved amount of each substance rather than the total amount," was revised to refer to all values based on Safe Drinking Water Act secondary standards. Footnote 11 now reads "These criteria are based on Safe Drinking Water Act secondary standards and are intended to prevent undesirable cosmetic or aesthetic effects. The values for iron,

manganese, and silver represent the dissolved amount of each substance rather than the total amount.”

Footnote 13 was modified slightly to be consistent with the language used in the *National Recommended Water Quality Criteria*, “or homolog or Aroclor” was added after “all isomer.”

A portion of footnote 14, “where the pH is equal to or greater than 7.0 and the hardness is greater than or equal to or greater than 50 ppm as CaCO₃ in the receiving water after mixing, the 87 µg/L chronic criterion will not apply, and aluminum will be regulated based on compliance with the 750 µg/L acute aluminum criterion” was modified to read “where the pH of the receiving water after mixing is between 6.5 and 7.0 and the hardness is less than 50 mg/L of CaCO₃, the 87 µg/L chronic criterion will apply; where the pH of the receiving water after mixing is greater than or equal to 7.0 and the hardness is greater than or equal to 50 mg/L of CaCO₃, the 750 µg/L acute criterion will apply” to help clarify the conditions under which either the acute or chronic criterion apply.

(c) Site Specific Criteria.

The formatting of Subsection (c) of Appendix B was modified to be consistent with the formatting used in the rest of the document. It follows Section 6, Format for Final Rules Submitted for Filing, Chapter 1, Wyoming Secretary of State Rules on Rules.

Appendix D. The details provided by the asterisk (*) were moved above the footnotes and “2A” was changed to “2AB” to indicate that the dissolved oxygen criteria apply only to waters with fish as a designated use. The following reference was also added “Criteria derived from: *U.S. EPA. 1986. Ambient Water Quality Criteria. EPA 440/5-86-003. National Technical Service. Springfield, VA*” to clarify the source of the dissolved oxygen criteria.

Appendix F. The title of Appendix F was changed from “Conversion Factors: Total Recoverable – Dissolved Values for Metals Equations for Parameters With Hardness Dependence” to “Conversion Factors To Change Total Recoverable Metal Values to Dissolved Values and Equations For Hardness Dependent Metals” for clarification.

The formatting was modified to break the conversion factors and equations into subsections, similar to the formatting within the rest of the document. Additional details were added to both subsections.

The subsection on conversion factors was modified based on footnotes in the *National Recommended Water Quality Criteria* document and now reads: “Aquatic life values for the

following metals are based on the dissolved amount of each substance. The recommended aquatic life value was calculated by using previous 304(a) aquatic life values expressed in terms of total recoverable metal and multiplying it by a conversion factor (CF). The conversion factors provided below are necessary to convert a metal value expressed as the total recoverable fraction in the water column to the dissolved fraction in the water column.”

Some detail and a footnote were added to the subsection describing the conversion factors for cadmium and lead. The subsection now reads “The conversion factors (CF) for cadmium and lead are not constant but vary with hardness (mg/L of CaCO₃). Conversion factors can be calculated using the following equations, although should not exceed one^(a).” The footnote is defined on the following page and reads “Based on Guidance on the Calculation of Hardness-Dependent Metals Criteria presented in: *U.S. EPA. 2002. National Recommended Water Quality Criteria. EPA-822-R-02-047.*”

Additional detail was also added to the equations for parameters with hardness dependence. The introduction now reads “Equations for Hardness Dependent Metals. Aquatic life values at various hardness^(b) concentrations can be calculated using the formulas below. The formulas include the conversion factors to derive dissolved metal values:”

Appendix G. The title of Appendix G was modified slightly to read “Equations For pH Dependent Parameters.” The words “Acute” and “Chronic” were added to the table and the order of the Acute and Chronic formulas was reversed to be consistent with other aquatic life values detailed in the Appendices.

Specific Response Request

The WDEQ/WQD is seeking public comment on the proposed revisions outlined above. We are also interested in input on whether there are additional errors and/or inconsistencies that need to be corrected that are not identified in this outreach document and whether there are other water quality criteria that should be considered at this time. Any suggested revision must include sufficient rationale, including scientific information, to support the proposed change.

Point of Contact

Persons who have questions about this outreach document may contact Lindsay Patterson at phone: 307-777-7079, fax: 307-777-5973, or email: Lindsay.Patterson@wyo.gov. All suggestions and recommendations for the proposed rules must be made at the public meeting or submitted as written comments to be part of the record.

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