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STATE OF NEW MEXICO
NEW MEXICO WATER QUALITY CONTROL COMMISSION

In the Matter of:

PROPOSED AMENDMENTS TO
***STANDARDS FOR INTERSTATE AND INTRASTATE SURFACE WATERS*, 20.6.4 NMAC**

No. WQCC 20-51 (R)

SAN JUAN WATER COMMISSION'S NOTICE OF INTENT TO PRESENT TECHNICAL TESTIMONY

COMES NOW San Juan Water Commission ("SJWC"), by and through its counsel of record, Taylor & McCaleb, P.A., and in accordance with 20.1.6.202 NMAC, the November 9, 2020, *Procedural Order*, and the April 1, 2021, *Order Granting Amigos Bravos' Unopposed Motion for Extension of Time to File Notices of Intent to File Direct and Rebuttal Testimony* ("*Order re Extension of Time*") filed herein, hereby files this Notice of Intent to Present Technical Testimony at the Triennial Review scheduled to begin July 13, 2021.

I. DIRECT TESTIMONY

SJWC intends to call the following person to present technical testimony on behalf of SJWC during the Triennial Review hearing:

Jane DeRose-Bamman: Ms. DeRose-Bamman is an Environmental Consultant with more than 30 years' experience with water quality planning, management, compliance, regulations and standards issues. A copy of Ms. DeRose-Bamman's resumé is attached hereto as Exhibit "SJWC 1." Ms. DeRose-Bamman will provide technical testimony addressing various proposals set forth in NMED's Triennial Review Petition. A copy of Ms. DeRose-Bamman's written direct technical testimony is attached hereto as Exhibit "SJWC 2."

In accordance with the time limitation set forth in Paragraph No. 3 of the *Procedural Order*, oral presentation of a summary of Ms. DeRose-Bamman's direct and rebuttal technical testimony is anticipated to take no more than 30 minutes per issue.

The exhibits SJWC intends to submit in support of Ms. DeRose-Bamman's technical testimony are attached to her written direct testimony filed herewith.

II. REBUTTAL TESTIMONY

This Notice is based on the Petition filed by NMED. Pursuant to the *Procedural Order* and the *Order re Extension of Time*, SJWC will present the written rebuttal technical testimony of Ms. DeRose-Bamman on June 22, 2021, which will: (i) address the direct technical testimony filed by NMED and other Triennial Review participants; (ii) identify any additional modifications to the water quality standards SJWC proposes based on the direct technical testimony filed by NMED or other Triennial Review participants; and (iii) provide all rebuttal exhibits.

SJWC reserves the right to call any person to testify and to offer any exhibit in response to any testimony, exhibit or public comment presented in the public hearing.

Respectfully submitted,

TAYLOR & McCALEB, P.A.

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Attorneys for San Juan Water Commission

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a copy of San Juan Water Commission's Notice of Intent to Present Technical Testimony was served on the following persons by e-mail this 3rd day of May 2021:

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/s/ Jolene L. McCaleb
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Resume for

Jane E. DeRose-Bamman
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derosebammanconsulting@gmail.com
PO Box 8007
Roswell, New Mexico 88202

EDUCATION:

BS – Chemical Engineering, University of Notre Dame May 1985

PROFESSIONAL BACKGROUND:

With more than 30 years' experience in the environmental compliance field, Jane DeRose-Bamman has worked on various aspects of federal and/or state groundwater, drinking water and surface water protection programs. Based on her experience with the United States Environmental Protection Agency (EPA), the states of Arizona and New Mexico, and the Albuquerque Bernalillo County Water Utility Authority, she has been in the role of both regulator and permittee. She applied that experience in New Mexico to help formulate water quality rules for the State of New Mexico. Currently serving as a consultant, she applies knowledge of the compliance monitoring and standards-setting processes to ensure quality outcomes.

NEW MEXICO WATER QUALITY CONTROL COMMISSION Jan 2014 - March 2019
Municipal/County Representative

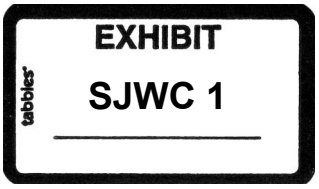
Participated in permit compliance and rulemaking hearings, including the 2014 Triennial Review, Ground and Surface Water Protection Rule update, and adoption of WQCC Rulemaking Rules.

NEW MEXICO MUNICIPAL LEAGUE 2009 - present
Environmental Quality Association Subsection Board

President 2011-2012

ENVIRONMENTAL CONSULTANT Jan 2018 – present

Track proposed changes to federal regulations and state rules affecting water quality, highlighting impacts from proposed changes to assist permittees with their implementation plans. Assist clients with preparation of Drinking Water consumer confidence reports and monitoring to prepare for NPDES and GWDP renewals.



ALBUQUERQUE BERNALILLO COUNTY WATER UTILITY AUTHORITY Nov 2008 – Dec 2017

Regulatory Policy Manager, NPDES Program Manager, & Water Quality Program Manager
Responsible for planning, directing, managing and overseeing the monitoring programs for Drinking Water, National Pollutant Discharge Elimination System (NPDES) and Ground Water Discharge Permits. Responsibilities included overseeing monitoring, analyzing data, compliance reporting, planning, and reviewing proposed regulations to determine impact on Water Authority and recommending action.

NEW MEXICO ENVIRONMENT DEPARTMENT Jan 2005 – Nov 2008

Monitoring and Assessment Program Manager & Water Quality Standards Coordinator
Responsible for monitoring and assessing New Mexico's surface waters, developing Clean Water Act Section 305(b)/303(d) Integrated Report for State of New Mexico and preparing Total Maximum Daily Load strategy documents for impaired waters and evaluating, reviewing and developing surface water quality standards for New Mexico consistent with Clean Water Act requirements. Assisted with outreach efforts pertaining to proposed changes to Water Quality Standards. Prepared packages for U.S. EPA Region VI approval.

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY May 1997 - Dec 2004
Responsible for developing permits for the Aquifer Protection Permit (APP) program, reviewing the adequacy of onsite wastewater treatment systems and developing the components of the Arizona Pollutant Discharge Elimination System (AZPDES) programs. Assisted in modifications to fee and APP program rules.

U.S. ENVIRONMENTAL PROTECTION AGENCY Aug 1987 - Mar 1997
Responsible for ensuring NPDES permits and pretreatment program submittals from states complied with U.S. EPA regulations, policies and guidance.

DIRECT TECHNICAL TESTIMONY
OF
JANE DEROSE-BAMMAN

FOR

THE 2020 TRIENNIAL REVIEW

Hearing No. WQCC 20-51 (R)

May 3, 2021

Submitted by:

San Juan Water Commission
7450 East Main
Farmington, New Mexico 87402

Jane DeRose-Bamman
DeRose-Bamman Consulting
Technical Consultant for San Juan Water Commission

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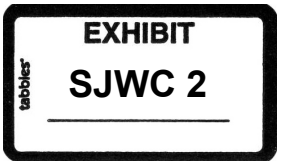

STATE OF NEW MEXICO
NEW MEXICO WATER QUALITY CONTROL COMMISSION

In the Matter of:

PROPOSED AMENDMENTS TO
STANDARDS FOR INTERSTATE AND
***INTRASTATE SURFACE WATERS,* 20.6.4 NMAC** **No. WQCC 20-51 (R)**

DIRECT TECHNICAL TESTIMONY OF JANE DEROSE-BAMMAN

INTRODUCTION

On behalf of the San Juan Water Commission ("SJWC"), I have reviewed the changes to the New Mexico Water Quality Standards for Interstate and Intrastate Surface Waters ("WQS") proposed by the New Mexico Environment Department ("NMED") in its *Notice of Amended Petition* filed March 12, 2021 ("Amended Petition"). Previously, I reviewed NMED's initial *Petition to Amend the Standards for Interstate and Intrastate Surface Waters (20.6.4 NMAC) and Request for Hearing* filed August 19, 2020 ("Initial Petition") and provided technical analysis and draft comments to SJWC for its January 6, 2021, public comment letter to NMED concerning the Initial Petition. SJWC filed its comment letter with the WQCC on March 27, 2021, and a copy of that comment letter is attached as Exhibit SJWC 2-A.

Following is my written direct technical testimony for the Triennial Review hearing scheduled to begin on July 13, 2021. This testimony presents my analysis of, and addresses SJWC's concerns about, objections to and/or proposed modifications to, various proposals set forth in NMED's Amended Petition.

Pursuant to the Hearing Examiner's pertinent scheduling orders, I also intend to submit rebuttal technical testimony and exhibits on or before June 22, 2021. In my rebuttal testimony, I will address the direct technical testimony filed by NMED and other parties concerning NMED's proposed WQS changes, as well as WQS changes proposed by others (if any) that are a logical outgrowth of NMED's proposals.

GENERAL CAVEAT CONCERNING SCOPE OF DIRECT TECHNICAL TESTIMONY

I have been hampered in my review and analysis of, and recommendations to SJWC concerning, NMED's Amended Petition (and the Initial Petition before it) because of insufficient information concerning the technical bases or other reasons for its proposed amendments to the WQS. Although NMED filed a *Statement of Reasons for Proposed Amendments to 20.6.4 NMAC* ("Statement of Reasons") for its Initial Petition and a "summary" of the revisions in its Amended Petition, the Statement of Reasons and later summary of revisions do little more than provide a listing or general description of NMED's proposals. They provide almost no bases for the proposals.

In past Triennial Reviews, NMED's petition has included extensive descriptions of the justifications for its proposals. For example, NMED's last Triennial Review Petition, filed with the WQCC on June 25, 2014 (attached as Ex. SJWC 2-B), contained extensive "bases" for the proposed WQS amendments, including the history of pertinent amendments in prior Triennial Reviews (*e.g.,* at 11), references to and discussions of applicable federal regulations (*e.g.*, at 3, 7-8, 17, 29), and the technical grounds for changes to specific water quality criteria (*e.g.*, at 29, 30). That petition also attached supporting documents, including detailed technical memoranda and a draft Use

Attainability Analysis ("UAA") (attachments 1-4), and included hyperlinks to UAAs for 22 streams and five drainages (*see* Table of Contents). That information aided interested parties in their review of the scientific and/or regulatory appropriateness of each proposed change to a standard and enabled expert witnesses to provide thorough analyses of the proposals in their written direct technical testimony. Because NMED's Statement of Reasons and later summary of revisions in this Triennial Review provide little to no support for the proposed WQS changes, I must wait to learn the foundations for those proposals through the written technical testimony of NMED's experts. It therefore is likely that my rebuttal technical testimony will be more extensive, detailed and focused than my direct technical testimony set forth below.

WRITTEN DIRECT TECHNICAL TESTIMONY

1. 20.6.4.6(D) and 20.6.4.7(C)(4) NMAC—NMED'S PROPOSED CLIMATE CHANGE OBJECTIVE AND DEFINITION

Section 20.6.4.6 NMAC is the section of the WQS addressing their objectives. Currently, there are three objectives:

- Subsection A sets forth the purpose—to establish water quality standards consisting of designated uses, water quality criteria to protect designated uses, and an antidegradation policy.
- Subsection B explains that the WQS are adopted pursuant to, and "are consistent with and serve the purposes of," the New Mexico Water Quality Act and the federal Clean Water Act. The purpose of the WQS is "to protect the public health or welfare" and "enhance the quality of" the surface waters of the State. More specifically, under the federal Clean Water Act, the

objective of the WQS is to meet the "goal of water quality that provides for the protection and propagation of fish, shellfish and wildlife and provides for recreation in and on the water . . . ." Other "essential uses" of New Mexico's surface waters are "[a]gricultural, municipal, domestic and industrial water supply," although, "where practicable," water contamination resulting from such uses "will not be permitted to lower the quality of surface waters of the state below that required for protection and propagation of fish, shellfish and wildlife and recreation in and on the water . . . ."

- Subsection C declares that, under the New Mexico Water Quality Act, the WQS do not grant to the WQCC any authority to "take away or modify property rights in water."

In its Statement of Reasons for its Initial Petition, NMED proposes (at 1, ¶ 1) to add a fourth objective "acknowledging that an objective of these regulations is to address climate change." The Statement of Reasons provides no explanation of, or technical or regulatory support for, the adoption of this new objective. Therefore, NMED's intent is unknown. If the proposed language is intended to indicate that the WQS must, in some way, be directed toward alleviating climate change, that objective is not possible because water quality does not cause climate change.

The initially proposed language for this new objective did refer to Governor Lujan Grisham's Executive Order No. 2019-003, which is titled "Executive Order on Addressing Climate Change and Energy Waste Prevention." However, NMED's final proposed language for this objective, set forth in its Amended Petition, no longer refers to the Executive Order but states simply: "These surface water quality standards serve to

address the inherent threats to water quality due to climate change." It therefore is unclear whether NMED currently contends the Executive Order provides authority for a new climate change objective. NMED's Amended Petition does not shed any light on this issue and states (at 2, ¶ 2) only that NMED amended its original proposal "to more accurately reflect the objective of the standards as they pertain to the threats of climate change." Regardless, in my opinion, the Executive Order provides no basis for inserting a climate change objective into the WQS. The Executive Order, which is attached as Exhibit SJWC 2-C, addresses climate change in the context of reducing greenhouse gases. It provides no support for a contention that an objective of the WQS is to address climate change.

Further, neither the New Mexico Water Quality Act nor the federal Clean Water Act provides authority for the proposition that a goal of the WQS is to address climate change. Both Acts regulate the discharge of pollutants into the water, not the emission of greenhouse gases. For example, the Clean Water Act states that it is a national goal to eliminate the discharge of pollutants into navigable waters. 33 U.S.C. § 1251 (attached as Ex. SJWC 2-D). The WQS simply cannot regulate greenhouse gases. As already noted, in compliance with the federal Clean Water Act, New Mexico's WQS consist of designated uses, water quality criteria, and an antidegradation policy. Section 20.6.4.6(A) NMAC; 40 CFR § 131.6 (attached as Ex. SJWC 2-E). Climate change is not a designated use, a water quality criterion, or an antidegradation policy. Rather, climate change may be considered a type of threat to water quality similar to drought that is not a regulated discharge of a pollutant. NMED already includes "drought-related impacts" in its list of "top ten probable sources" of impairment, as shown in the *WQCC Approved 2020-2022*

State of New Mexico Clean Water Act §303(d)/§305(b) Integrated Report (Dec. 8, 2020) ("Integrated Report") at 6, 33, App. B at Table B-5 (attached as Ex. SJWC 2-F). NMED also identifies "extreme drought" as a "catastrophic event" that "may be considered as a basis for [an impairment] listing in instances where nonattainment of standards arises from an irreversible source of pollutants." *Comprehensive Assessment and Listing Methodology (CALM): Procedures for Assessing Water Quality Standards Attainment for the State of New Mexico CWA §303(d)/§305(b) Integrated Report* (Sep. 3, 2019) ("CALM") at § 2.1.8 (at 13), Revision History (at 40) (attached as Ex. SJWC 2-G).

It makes little sense to add an objective to the WQS to "address the inherent threats to water quality" posed by climate change, which is only one potential cause of water quality impairment, when the general purpose of the WQS is to address all impairments. As stated in the Integrated Report (Ex. SJWC 2-F at 6, 52), "there are many challenges in meeting the objectives of the [Clean Water Act] and the [New Mexico Water Quality Act]," including "significant surface water quality issues" such as climate change (and resulting drought), stormwater runoff and wildfires. Singling out climate change as a "goal" of the WQS will cause confusion rather than clarity and could result in unintended consequences. Instead, the impact of climate change on water quality should continue to be addressed through the current process of assessing waters, listing impairments and preparing Total Maximum Daily Loads to address those impairments. NMED's proposal to add a climate change objective should be rejected.

NMED also proposes adding a definition of "climate change" in 20.6.4.7(C) NMAC. Because the term is not currently used in the WQS, the definition is unnecessary if the WQCC rejects NMED's climate change objective, as recommended by SJWC. NMED

has not identified the source of its proposed definition, and NMED has amended the definition since its Initial Petition. As far as I know, neither the New Mexico Water Quality Act nor the federal Clean Water Act, or the associated state and federal regulations, contain a definition of, or even refer to, climate change. I therefore cannot form an opinion about whether the proposed definition is appropriate until I receive NMED's technical testimony identifying the source of the definition and explaining how it fits within the scope of the federal Clean Water Act Water and the New Mexico Water Quality Act.

2. 20.6.4.7 NMAC—NMED'S PROPOSED DEFINITIONS

NMED proposes several new terms and changes to terms defined in Section 20.6.4.7 NMAC. SJWC has concerns about several of those definitions, as follows.

A. 20.6.4.7(B) and (E) NMAC—"Baseflow" and "Effluent Dominated"

NMED proposes to add a definition of "baseflow" because it is used in a proposed new definition of "effluent dominated." SJWC does not support the adoption of either definition because neither term is used elsewhere in the WQS. The definitions are therefore not needed and could create confusion concerning their applicability to other WQS. The appropriate time to adopt these new definitions is when another WQS is adopted that incorporates the terms "baseflow" and/or "effluent dominated." Further, it is not possible to determine whether the proposed definitions are appropriate without knowing the context in which they may be used, if ever, in future WQS.

B. 20.6.4.7(C) NMAC—"Contaminants of Emerging Concern"

NMED proposes to specifically refer to "contaminants of emerging concern" ("COECs") in the WQS for toxic pollutants at 20.6.4.13(F)(1) NMAC. For that reason, NMED proposes adding a definition of COECs "to codify historical and current practice in

relation to water contaminants." *Statement of Reasons* at 1, ¶ 2(iv). In its Amended Petition (at 2, ¶ 5), NMED revised the proposed definition "to reflect that contaminants of emerging concern include, but are not limited to, particular types of chemicals." However, NMED has provided no bases for its proposal to add COECs to the toxic pollutants standard. For the reasons set forth below on pages 16-17 concerning 20.6.4.13(F)(1) NMAC, SJWC opposes NMED's proposed definition. Because it is not proper to refer to COECs in 20.6.4.13(F)(1) NMAC, no definition of COECs is needed.

C. 20.6.4.7(H) NMAC—"Hardness"

NMED proposes to define the term "hardness" and to clarify that hardness is based on dissolved calcium and magnesium. *Statement of Reasons* at 2, ¶ 2(vi); *Amended Petition* at 2, ¶ 7. The term "dissolved hardness" is used in 20.6.4.12(F) and 20.6.4.900(I) NMAC, whereas "hardness" is used in equations and other instances throughout the WQS, such as 20.6.4.808(B) and 20.6.4.900(I)(1) NMAC. If the revised definition is adopted as proposed, there is redundancy in the term "dissolved hardness," which may cause confusion. SJWC therefore recommends removing the word "dissolved" before "hardness" in 20.6.4.12(F) and 20.6.4.900(I) NMAC.

D. 20.6.4.7(M) NMAC—"Marginal Coldwater"

NMED proposes to amend the definition of "marginal coldwater" as follows:

> "Marginal coldwater" in reference to an aquatic life use means that natural [~~intermittent or low flows, or other natural~~] habitat conditions severely limit maintenance of a coldwater aquatic life population during at least some portion of the year or historical data indicate that the temperature [~~in~~] of the surface water of the state may exceed that which could continually support aquatic life adapted to coldwater [~~25°C (77° F)~~].

The purpose of this amendment is "to clarify that this designated use is not limited to ephemeral or intermittent waters and include those conditions that distinguish it from a coldwater aquatic life use designation." *Statement of Reasons* at 2, ¶ 3(iii). This brief explanation does not justify the changes, which are being made only to the "marginal coldwater" definition. It is not clear why parallel changes would not be made to the definition of "marginal warmwater," which is structured similarly. The information provided does not sufficiently explain the rationale behind deleting the temperature criterion. NMED does not propose removing the temperature criterion from 20.6.4.900(H)(3) NMAC, which sets out specific criteria for the marginal coldwater subcategory of the aquatic life designated use. Nor does NMED propose removing the temperature criterion from the definition of "marginal warmwater" in 20.6.4.7(M)(2) NMAC. SJWC therefore recommends that the WQCC reject these proposed changes.

E. 20.6.4.7(U) and 20.6.4.11(H) NMAC—"Unclassified Waters of the State"

20.6.4.11 NMAC addresses the applicability of certain WQS to particular waters, and subsection H identifies the WQS applicable to unclassified waters (those that are not specifically identified in 20.6.4.101-.899 NMAC):

> **H. Unclassified waters of the state:** Unclassified waters of the state are those surface waters of the state not identified in 20.6.4.101 through 20.6.4.899 NMAC. An unclassified surface water of the state is presumed to support the uses specified in Section 101(a)(2) of the federal Clean Water Act. As such, it is subject to 20.6.4.98 NMAC if nonperennial or subject to 20.6.4.99 NMAC if perennial. The commission may include an ephemeral unclassified surface water of the state under 20.6.4.97 NMAC only if a use attainability analysis demonstrates pursuant to 20.6.4.15 NMAC that attainment of Section 101(a)(2) uses is not feasible.

20.6.4.11 NMAC has not been modified since 2010. NMED now proposes to remove the entire paragraph concerning the WQS applicable to unclassified waters from 20.6.4.11 NMAC and use it as a definition (with minor, non-substantive modifications) "to provide consistency." *Statement of Reasons* at 3, ¶ 11. NMED does not explain what "consistency" will be achieved by this change.

SJWC objects to this change as unnecessary and confusing. Only the first sentence of the paragraph—not the entire paragraph—provides a definition of "unclassified waters of the state": "'Unclassified waters of the state' means those surface waters of the state not identified in 20.6.4.101 through 20.6.4.899 NMAC." The remainder of the paragraph establishes the designated uses and water quality criteria for unclassified perennial, non-perennial, and ephemeral waters. For that reason, if the WQCC determines a definition of "unclassified waters of the state" is needed, all but the first sentence of 20.6.4.11(H) NMAC should be retained in that section.

3. <u>20.6.4.8(A)(2) NMAC—NMED'S ANTIDEGRADATION POLICY PROPOSAL</u>

NMED proposes to add language to Subsection (A)(2) concerning the maintenance of "established" levels of water quality:

> Where the quality of a surface water of the state exceeds <u>the established</u> levels necessary to support the propagation of fish, shellfish, and wildlife, and recreation in and on the water, that <u>level of</u> quality shall be maintained and protected unless the commission finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the state's continuing planning process, that allowing lower water quality is necessary to accommodate important economic and social development in the area in which the water is located. . . . .

20.6.4.8(A)(2) NMAC. However, NMED has provided no explanation or reasoning for this proposed change, only stating that it "clarif[ies] language regarding applicability of existing uses." *Statement of Reasons* at 2, ¶ 6.

In all pertinent respects, the existing language of 20.6.4.8(A)(2) NMAC is essentially verbatim from 40 CFR 131.12(a)(2) (attached as Ex. SJWC 2-H), which states:

> Where the quality of the waters exceeds levels necessary to support the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. . . .

Given this fact, and that fact that the existing language of 20.6.4.8(A)(2) NMAC apparently has been in the WQS for at least ten years, the WQCC should reject NMED's proposal unless NMED explains and justifies it, including providing an explanation of the meaning of "the established levels" phrase. It is not clear whether NMED's "established levels" language is referring to existing levels of numeric criteria associated with designated uses. If so, NMED should instead refer to the water quality criteria specified in 20.6.4.97-20.6.4.900 NMAC:

> Where the quality of a surface water of the state exceeds ~~the established~~ levels established in 20.6.4.97–20.6.4.900 NMAC necessary to support the propagation of fish, shellfish, and wildlife, and recreation in and on the water, that ~~level of~~ quality shall be maintained and protected unless the commission finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the state's continuing planning process, that allowing lower water quality is necessary to accommodate important economic and social development in the area in which the water is located. . . . .

Also, NMED should clarify what is meant by "level of." The term could be referring either to an individual numeric criterion or to the level of water quality measured and thus is not clear.

In my opinion, NMED's proposed edits to 20.4.6.8(A)(2) NMAC are unnecessary and create uncertainty.

4. 20.6.4.10 NMAC —NMED'S REVIEW OF STANDARDS/ ADDITIONAL STUDIES PROPOSALS

NMED proposes changes to 20.6.4.10 and 20.6.4.15 NMAC that relate to the federal requirements for the designation of uses set out in 40 CFR 131.10, which is titled "Designation of Uses" (attached as Ex. SJWC 2-I). This section of the federal regulations covers when to designate a use, factors allowing changes to uses, and the types of documentation required to justify the changes. NMED proposes to include citations to some federal provisions and attempts to incorporate the language from other federal provisions within 20.6.4.10 and 20.6.4.15 NMAC. Currently, the WQS incorporate both approaches.

For example, the current language of 20.6.4.15(A) NMAC includes specific references to 40 CFR 131.3(g), 131.10(g), 131.10(h), and 131.10(j):

> 20.6.4.15 USE ATTAINABILITY ANALYSIS:
>
> A. A use attainability analysis is a scientific study conducted for the purpose of assessing the factors affecting the attainment of a use. Whenever a use attainability analysis is conducted, it shall be subject to the requirements and limitations set forth in 40 CFR Part 131, Water Quality Standards; specifically, Subsections 131.3(g), 131.10(g), 131.10(h) and 131.10(j) shall be applicable.

On the other hand, 20.6.4.15(A)(2) NMAC incorporates the concept of, and some language from, 40 CFR 131.10(h):

> 40 CFR 131.10(h): States may not remove designated uses if: (1) They are existing uses, as defined in § 131.3, unless a use requiring more stringent criteria is added; . . . .
>
> 20.6.4.15(A)(2) NMAC: A designated use cannot be removed if it is an existing use unless a use requiring more stringent criteria is designated.

Either approach is acceptable. However, it is neither feasible nor necessary to incorporate into the WQS language matching all of the pertinent federal regulations. Because 40 CFR 131.10 is a complicated regulation, incorporating various provisions by citation rather than adopting NMED's versions of those provisions would provide the greatest clarity.

A. 20.6.4.10(B) NMAC —NMED's Existing Use Analysis Proposal

In reliance on 40 CFR 131.10(i), NMED proposes to add a new Subsection B to 20.6.4.10 NMAC to address situations where designated uses established in the WQS are "less stringent" than existing uses:

> B. In accordance with 40 CFR 131.10(i), when an existing use, as defined under 20.6.4.7 NMAC, is higher quality water than prescribed by the designated use and supporting evidence demonstrates the presence of that use, the designated use shall be amended accordingly to be no less stringent than the existing use.

SJWC agrees that 40 CFR 131.10(i) (Ex. SJWC 2-I) requires amendment of a designated use when evidence demonstrates it is "less" than an existing use: "Where existing water quality standards specify designated uses less than those which are presently being attained, the State shall revise its standards to reflect the uses actually being attained." However, NMED's proposed language is too broad and introduces terms or concepts not currently used in either the federal regulation or the WQS.

First, NMED introduces the term "higher quality water." However, 40 CFR 131.10(i) is focused on uses rather than water quality. NMED did not refer to "higher quality water" in its Initial Petition. In its Amended Petition, NMED asserts that the reference to "higher quality water" clarifies that "existing uses may have higher water quality, *rather than* a more stringent designated use." *Amended Petition* at 2, ¶ 10 (emphasis added). This argument is confusing because the federal regulation requires amendment of a designated use when that designated use is "less" than an existing use—the amendment is required because of the *use*, not because of the *water quality*. NMED's proposal therefore conflicts with the federal regulation.

Second, NMED has not explained what it means by "higher quality water." If only one constituent with an established numeric criterion is better than that required for a designated use, would that constitute "higher quality water," thus requiring an upgrade for the designated use?

Third, NMED also introduces the term "supporting evidence" in this new provision, but it has not defined what would be acceptable evidence for what may be referred to as an "existing use analysis" ("EUA"). SJWC agrees that an EUA is necessary before an "upgrade" is made to an already-established designated use. A description of the amount and type of evidence required is necessary because, as discussed below concerning 20.6.4.103/112, 116, 204, 207 and 206/231 NMAC, NMED is proposing to implement this provision and use it to support the modification of the recreational use for several stream segments from "secondary" to "primary" contact. The proposed changes to the recreational uses for those stream segments are premature because NMED provided no documentation to support them. The amount and type of data required for an EUA should

be defined, either in the WQS or in the State of New Mexico Statewide Water Quality Management Plan and Continuing Planning Process ("WQMP/CPP").

Finally, the use of the term "stringent" in this proposed new language is improper. Within 40 CFR 131.10, "stringent" applies to criteria, not to uses. See, for example, 40 CFR 131.10(f) ("less stringent water quality criteria"), 40 CFR 131.10(h)(1) ("more stringent criteria"), 40 CFR 131.10(j)(2) ("criteria less stringent than"), and 40 CFR 131.10(k)(2) ("criteria at least as stringent"). It is unclear how to apply a "stringency" factor to designated uses.

In sum, instead of introducing new terms, SJWC recommends that the WQCC adopt language referencing the pertinent federal regulations for determining when evaluations, such as EUAs or UAAs, need to be undertaken. In addition, the WQCC should specify the required elements of, and procedures for conducting, an EUA, similar to what NMED is proposing in 20.6.4.15(D) NMAC for UAAs. SJWC recommends that the WQCC consider specifying such requirements and procedures in the WQMP/CPP.

B. 20.6.4.10(D) NMAC — Requirement for UAAs

NMED proposes to add a new subsection D to 20.6.4.10 NMAC specifying that a UAA is required to remove or amend "a designated use to a designated use with less stringent criteria . . . ." However, 20.6.4.15 NMAC already specifies both when a UAA is required and the components of a UAA. Scattering related provisions between sections is cause for confusion or error. This provision, in particular, has some redundancy with 20.6.4.15(A)(1) NMAC and thus is not necessary. Provisions relating to UAAs should be incorporated within Section 15.

5. 20.6.4.13(F) NMAC—NMED'S TOXIC POLLUTANTS PROPOSAL

A. Contaminants of Emerging Concern

NMED proposes to include COECs in the toxic pollutants regulation found in 20.6.4.13(F)(1):

> Except as provided in 20.6.4.16 NMAC, surface waters of the state shall be free of toxic pollutants, including but not limited to contaminants of emerging concern and those toxic pollutants listed in 20.6.2 NMAC, from other than natural causes in amounts, concentrations or combinations that affect the propagation of fish or that are toxic to humans, livestock or other animals, fish or other aquatic organisms, wildlife using aquatic environments for habitation or aquatic organisms for food, or that will or can reasonably be expected to bioaccumulate in tissues of fish, shellfish and other aquatic organisms to levels that will impair the health of aquatic organisms or wildlife or result in unacceptable tastes, odors or health risks to human consumers of aquatic organisms.

SJWC urges the WQCC to not adopt the reference to COECs because it would allow NMED to regulate contaminants that are not routinely monitored, may not yet have regulatory standards, and may not yet have been fully studied to determine their negative impacts. NMED's own proposed definition of COECs admits that "although suspected to potentially have impacts, [COECs] may not have regulatory standards, and the concentrations to which negative impacts are observed have not been fully studied." Significantly, NMED has provided no justification or reason for its proposal.

WQS must be based on "sound scientific rationale" and "credible scientific data." *See* 40 CFR 131.5(a)(2), 131.11(a)(1) (attached as Ex. SJWC 2-J) (state-adopted water quality criteria to protect designated uses must be based on "sound scientific rationale"); NMSA 1978, § 74-6-4(D) (attached as Ex. SJWC 2-K) (WQCC "shall adopt water quality standards for surface and ground waters of the state based on credible scientific data…").

If COECs are only "suspected to potentially have impacts" and those potential "negative" impacts "have not been fully studied," then neither the "sound scientific rationale" federal requirement nor the "credible scientific data" state requirement has been met. Further, without such scientific data, COECs do not even meet the definition of a toxic pollutant:

> **"Toxic pollutant"** means those pollutants, or combination of pollutants, including disease-causing agents, that after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, *will cause* death, shortened life spans, disease, adverse behavioral changes, reproductive or physiological impairment or physical deformations in such organisms or their offspring.

20.6.4.7(T)(2) NMAC (emphasis added). It therefore is premature to include COECs as toxic pollutants in the WQS as no or little data has been presented to show the "amounts, concentrations, or combinations" that are toxic to humans, livestock, wildlife, other animals, fish, or other aquatic life, as required by the express terms of the toxic pollutants regulation at 20.6.4.13(F)(1) NMAC. 20.6.4.13(F) NMAC already provides authority to regulate any COEC that meets the definition of a toxic pollutant.

B. Toxic Pollutants in the Ground and Surface Water Protection Rule

NMED also proposes to add a reference to the list of toxic pollutants found in the Ground and Surface Water Protection rule at 20.6.2.7(T)(2) NMAC. SJWC opposes this change. As already noted, the term "toxic pollutant" is defined in the WQS at 20.6.4.7.T(2) NMAC. The inclusion of a reference to the toxic pollutants listed in the definition of "toxic pollutant" found in the Ground and Surface Water Protection rule is confusing. The two definitions have existed in separate sets of rules for many years, and NMED has not explained why it is necessary to make such a change at this time. Further, NMED has not even alluded to evidence that the water contaminants identified in 20.6.2.7(T)(2)

NMAC meet the definition of "toxic pollutant" in the WQS. Like COECs, the WQS already provide authority to regulate any constituent that meets the definition of a toxic pollutant.

6. 20.6.4.15 NMAC—NMED'S USE ATTAINABILITY ANALYSIS PROPOSALS

NMED proposes to add titles to the subsections. Some of the titles do not match the intent of the provisions. Specifically, NMED proposes to add the title: "Authority to remove a designated use" for Subsection A. However, the language of this subsection addresses when a use attainability analysis is required. For Subsection B, NMED proposes to add the title: "The mechanism to remove a designated use." But that subsection refers to the technical documents describing the type of information (*e.g.,* physical, chemical or economic data) and the evaluation that would be needed to support a UAA—it does not provide the state-specific mechanism for removing the use. The title proposed for Subsection D, "Process to amend a designated use through a use attainability analysis," implies the steps contained in this subsection would apply to any UAA. However, reading further, Subsection E includes the UAA requirements for non-NMED petitioners. The subsection titles are therefore misleading and should be revised or removed.

A. 20.6.4.15(A) NMAC—When a UAA Is Not Required

NMED proposes to add language to 20.6.4.15(A) NMAC stating that "the amendment of a designated use, based on a more stringent existing use, does not require a use attainability analysis." According to NMED, the purpose of this language is "to clarify that that *[sic]* amendments to designated uses with more stringent criteria do not require a UAA . . . ." *Amended Petition* at 3, ¶ 16. However, the proposed language does not accomplish that goal. First, NMED refers to "a more stringent existing use" rather

than to “an existing use requiring more stringent water quality criteria.” This distinction is important. The meaning of a “more stringent existing use” is not clear because it appears to be a new concept, whereas the phrase “existing use . . . requiring more stringent criteria” is already used in 20.6.4.15(A)(2) NMAC.

Second, the focus of Section 15 is on the requirements for a UAA, but this proposed addition is describing when a UAA is not required. Section 15 will be clearer if the language focuses solely on (i) when a UAA is needed and (ii) the required components of, and the process for completing, a UAA.

Third, the language NMED proposes to add to Subsection A essentially duplicates the concept NMED proposes for 20.6.4.10(B) NMAC. The amendment to Section 20.6.4.15(A) therefore is not needed.

For these reasons, SJWC recommends that the WQCC reject this proposal. In the alternative, this subsection should be rephrased, as discussed above, and it should be appended to 20.6.4.15(A)(2).

B. <u>20.6.4.15(D) NMAC—UAA Process</u>

SJWC supports NMED’s proposed revisions to this subsection, with the exception of subsection (D)(2)(c) NMAC. In that subsection, NMED proposes to state: “The use attainability analysis determined that the existing uses of the water being investigated are not more stringent than those in 20.6.4.97 NMAC.” Once again, NMED is using the concept of stringency in relation to designated uses rather than criteria. As already noted concerning 20.6.4.10(B) NMAC (see page 15), applicable federal regulations use the term “stringent” to describe criteria, not uses. Absent further explanation from NMED, the proposed language should be revised so that the term “stringent” applies to criteria

instead of designated uses. Alternatively, the entire proposal should be rephrased to clarify its intent.

7. 20.6.4.100 THROUGH 20.6.4.899 NMAC—NMED'S PROPOSED CHANGES TO CLASSIFIED WATERS

A. 20.6.4.105 and 20.6.4.106 NMAC—NMED's Effluent Limits Proposals

NMED proposes to apply certain community sewerage system effluent limits set forth in 20.6.2.2102 NMAC (attached as Ex. SJWC 2-L) to two segment-specific sections within the Rio Grande Basin portion of the WQS. The proposed language adds a reference to the effluent limits in a new paragraph (3) within subsection B of 20.6.4.105 and 20.6.4.106 NMAC:

> (3) Criteria referenced in 20.6.2.2102 NMAC, Rio Grande basin-community sewerage systems, apply if the applicability conditions in 20.6.2.2100 NMAC are met.

SJWC opposes these additions for several reasons. First, NMED is erroneously labeling the limitations specified in 20.6.2.2102 NMAC as "criteria." Pursuant to 20.6.2.2100-2102 NMAC (Ex. SJWC 2-L), these are requirements for effluent or discharge quality—they are not water quality criteria. Second, these effluent limits apply only to a community sewerage system that discharges to the Rio Grande Basin (from the headwaters of Elephant Butte Reservoir upstream to the Angostura Diversion Dam) and has been discharging in violation of its NPDES permit conditions for more than 30 days after receipt of a notice of violation. As such, they are temporary conditions that apply only "until in compliance with the National Pollution *[sic]* Discharge Elimination System permit conditions. . . ." 20.6.2.2100 NMAC. Third, "community sewerage systems" is not defined in either rule, so the scope is unclear.

Finally, SJWC opposes this proposal because the effluent quality levels specified in 20.6.2.2102 (A)(4)(a) through (e) are not water quality standards pursuant to Section 303(c) of the Clean Water Act. Although water quality standards may be translated into effluent limits, they are still distinctly different concepts. Implementation of these temporary conditions (and tracking when the conditions apply) adds confusion for the discharger. The provisions of 20.6.2.2102 NMAC specify limits for bio-chemical oxygen demand ("BOD"), chemical oxygen demand ("COD"), settleable solids, fecal coliform and pH. Many NPDES permittees are not required to monitor for COD or settleable solids. Currently, permittees are required to monitor for E. coli instead of fecal coliform. In addition, the pH range in 20.6.2.2102 NMAC is more stringent than those specified in 20.6.4.900(H) NMAC. Although there is a provision in 20.6.2.2102 NMAC for the Secretary to eliminate the pH requirement, that would take additional action.

Based on these reasons, adding the reference to 20.6.2.2102 NMAC to the WQS is unnecessary and would be difficult for permittees and NMED to implement. SJWC therefore recommends rejecting the proposed changes.

B. 20.6.4.103/112, 116, 204, 207 and 206/231 NMAC: NMED's Proposal to Upgrade the Recreation Designated Use

NMED proposes to change the recreation designated use for five stream segments from secondary contact to primary contact. In support of these changes, NMED states:

1. 20.6.4.103/112 NMAC:

> "Moved language pertaining to the 'main stem of the Rio Grande from the headwaters of Caballo reservoir upstream to Elephant Butte dam' *[currently in 20.6.4.103 NMAC]* to a new section *[20.6.4.112 NMAC]* to reflect the designated recreational primary contact use based on the findings of the Existing Use Analysis." *Amended Petition* at 3, ¶ 26 (citations added).

2. 20.6.4.103, 116, 204 NMAC:

> "The Department proposes to amend the recreational designated use from secondary contact to primary contact in sections 20.6.4.103 NMAC, 20.6.4.116 NMAC and 20.6.4.204 as demonstrated through an existing use analysis." *Statement of Reasons* at 3, ¶ 19.

3. 20.6.4.207 NMAC:

> NMED has provided no reason for its proposal to change the recreational designated use for this segment from secondary contact to primary contact.

4. 20.6.4.206/231 NMAC:

> "The Department proposes to move select tributaries from 20.6.4.206 NMAC to a new section, 20.6.4.231 NMAC, to reflect the change of the recreational designated use from secondary contact to primary contact as demonstrated through an existing use analysis." *Statement of Reasons* at 4, ¶ 25.

However, NMED proposed these changes without providing any documentation that primary contact is an existing use in those segments. On November 12, 2020, during a virtual presentation on the Initial Petition, the Surface Water Quality Bureau's Standards, Planning & Reporting Team Leader, Jennifer Fullam, stated in response to my inquiry that NMED was "finishing up" development of an existing use analysis to support the proposed primary contact use. It is surprising that actual evidence or supporting documentation was not provided with the Amended Petition. SJWC submits it is inappropriate to petition the WQCC to amend a designated use before the appropriate technical analysis has been completed. Further, SJWC recommends that the WQCC not adopt these revisions because NMED has not yet provided any data, documentation, or other evidence that primary contact is occurring and is attainable.

During the 2014 Triennial Review, NMED proposed that these same segments be "upgrade[d] . . . from secondary to primary contact recreation uses and criteria. However, the Commission . . . decided to reject the Departments *[sic]* proposed changes and instead adopt the arguments raised by the San Juan Water Commission in opposition of the Departments *[sic]* proposed changes, and retain secondary contact for the . . . segments." *Statement of Reasons and Final Order* in No. WQCC 14-05 (R) (Jan. 10, 2017) (attached as Ex. SJWC 2-M) at 36, ¶ 92 and 40, ¶ 100. In support of this decision, the WQCC held:

> The Department has not presented sufficient technical information to support its proposal to upgrade the . . . segments to primary contact. Adopting more stringent water quality standards absent information and data proving use is attainable is unadvised. Federal regulations require new and substantive information to upgrade a designated use, which the Department has failed to provide. Upgrading the . . . segments to primary contact would burden the State of New Mexico with unwarranted transactional costs. Maintaining secondary contact for the . . . segments is in compliance with CWA Section 101(a)(2). Therefore, the . . . segments will retain their secondary contact use designations. Based on the weight of the evidence, the Commission finds San Juan Water Commission's proposal to maintain secondary contact uses in certain segments is well taken, and therefore accepted.

Id. at 40-41, ¶¶ 101-105 (*paragraph numbering and internal citations omitted*). This same rationale defeats NMED's proposal here because NMED has not complied with the standard set by the WQCC for upgrading to the primary contact use designation.

Finally, assuming NMED provides the referenced existing use analyses with its written direct technical testimony, reliance on those analyses is premature. As discussed previously with respect to 20.6.4.10(B) NMAC (at pages 14-15), prior to proposing a designated use change based on an EUA, the process required to conduct the analysis,

and the amount and type of data required for "supporting evidence," should be approved and defined in either the WQS or the WQMP/CPP.

C. 20.6.4.108, 115, 206, 208, 209, 215, 307, and 309 NMAC—NMED's Tributaries_Proposal

NMED proposes "to amend language from 'tributaries to' to 'perennial reaches of tributaries to' in [these] sections . . . to clarify that non-perennial tributaries are not classified under perennial sections of 20.6.4 NMAC." *Statement of Reasons* at 3-4, ¶ 21. In addition, the amended language is "to reflect the findings of the UAA and aid in implementation of the water quality standards." *Amended Petition* at 3, ¶ 25. Again, SJWC opposes any modification of a water quality standard without technical justification. To date, NMED has not provided the technical justification (UAAs) for these changes, so I cannot yet provide any technical testimony concerning the veracity of NMED's evidence, if any.

8. 20.6.4.900 NMAC—NMED'S PROPOSED CHANGES TO CRITERIA

A. 20.6.4.900(D) NMAC—Primary Contact Criteria

NMED has proposed the following modifications to the primary contact criteria in 20.6.4.900(D) NMAC to incorporate EPA criteria for microcystins and cylindrospermopsin:

> **D. Primary contact:** The monthly geometric mean of E. coli bacteria of 126 cfu/100 mL or MPN/100 ml, [~~and~~] a single sample of E. coli bacteria of 410 cfu/100 mL or MPN/100 mL, a single sample of total microcystins of 8 µg/L with no more than three exceedances within a 12-month period and a single sample of cylindrospermopsin of 15 µg/L with no more than three exceedances within a 12-month period, and pH within the range of 6.6 to 9.0 apply to this use. The results for E. coli may be reported as either colony forming units (CFU) or the most probable number (MPN) depending on the analytical method used.

NMED's proposal includes the addition of (i) a duration of "a single sample" maximum and (ii) a frequency of "no more than three exceedances within a 12-month period." SJWC believes NMED should clarify that there is no violation if there are less than four samples collected within a 12-month period that exceed the applicable single sample criterion for microcystins or cylindrospermopsin.

B. 20.6.4.900(J)(1) NMAC—Use-Specific Numeric Criteria (Tributyltin)

NMED proposes to add numerous numeric criteria based on EPA criteria: "In the Criteria Applicable to Existing, Designated or Attainable Uses section (20.6.4.900(J)(1) NMAC), the Department proposes to add criteria for acute and chronic aquatic life pollutants listed in Section 304(a) of the CWA in order to comply with 40 C.F.R. 131.20." *Statement of Reasons* at 5, ¶ 35. Because there can be numerous names for chemical substances, NMED has included the Chemical Abstract System ("CAS") number (defined in 20.6.4.7(C)(1) NMAC) in the table in Section 900(J)(1) to identify the substance. For Tributyltin, NMED specified "various" for the CAS number. The lack of a specific CAS number creates uncertainty in determining which analyses need to be run to determine compliance with a particular water quality criterion. NMED should either provide a specific CAS number for this pollutant or provide additional details concerning which analytical method(s) to use to ensure compliance with the proposed criteria.

This concludes my direct testimony on behalf of SJWC.

San Juan Water Commission

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MEMBERS:
City of Aztec
City of Bloomfield
City of Farmington
San Juan County
S.J. County Rural Water Users Assoc.

January 6, 2021

New Mexico Environment Department
Surface Water Quality Bureau
Attn: Jennifer Fullam-2020 Triennial Review
P.O. Box 5469
Santa Fe, NM, 87502

Via U.S. Mail and E-mail to:
jennifer.fullam@state.nm.us

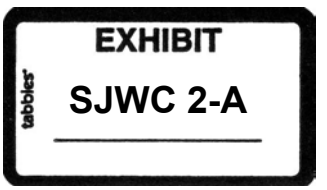
Re: San Juan Water Commission Comments on August 19, 2020, Triennial Review Rulemaking Petition, Statement of Reasons, and Proposed Amendments

Dear Ms. Fullam:

Pursuant to the November 2 and 25, 2020, notices of a public comment period for the proposed amendments to the State's Standards for Interstate and Intrastate Surface Waters (20.6.4 New Mexico Administrative Code ("NMAC")), I hereby provide the following comments on behalf of the San Juan Water Commission ("SJWC") to the New Mexico Environment Department Surface Water Quality Bureau ("NMED"). These comments are based on our review of NMED's August 19, 2020, Petition and Statement of Reasons for the proposed amendments to the surface water quality standards, as well as the information provided by NMED personnel at the virtual meetings held on November 12 and 16, 2020. SJWC appreciates the opportunity provided by NMED to comment on the Petition and Statement of Reasons.

General Comment

SJWC has been hampered in its review of, and development of comments concerning, NMED's proposed changes to the surface water quality standards because of the lack of information about the bases for the proposed changes. Although NMED has provided a Statement of Reasons, that Statement merely provides a general description of NMED's proposals—it provides almost no bases for the proposals. In past Triennial Reviews, NMED's petition has included extensive descriptions of the bases for each proposed change to a surface water quality standard. Those bases aided interested parties in their review of the scientific and/or regulatory appropriateness of each proposed standard change. For example, see NMED's 2013 Triennial Review Petition filed with the WQCC on June 25, 2014.



SJWC encourages NMED to amend its Petition and, in accordance with its historical practice, provide both the general public and future parties to the Triennial Review with adequate information concerning the bases for NMED's proposals. Without such information, it is not possible to adequately review NMED's proposals and consider whether to support them.

Substantive Comments

1. Climate Change – New 20.6.4.6.D and 20.6.4.7.C(4) NMAC. These provisions are very general and could have far-reaching implications. The Statement of Reasons (paragraphs 1 and 2.iii) does not clearly explain the intent behind these additions to the surface water quality standards. SJWC therefore requests that NMED explain, in more detail, its reasons for referencing climate change and how it intends to implement the climate change "standard." Without such information, SJWC is unable to determine whether the proposals are workable or, indeed, whether they are within the WQCC's statutory authority. SJWC suggests that NMED simply treat "climate change" as any other "cause" of an impairment. Also, the terms within the definition of "climate change" (*i.e.*, "significant change," "extended period of time," and "major changes") need to be defined.

2. Baseflow – New 20.6.4.7.B(1) NMAC. SJWC agrees this is a very useful concept to add to the surface water quality standards. However, more detail for calculating baseflow is needed. A formula approach like that used in the new definitions for "4Q3" or "harmonic mean flow" may be useful. The definition of "effluent dominated" proposed in the new 20.6.4.7.E(2) NMAC implies "baseflow" would be based on a 12-month average. Because few streams have flow gages, NMED should provide additional explanation concerning what readily available data will be used for determining baseflow.

3. Contaminants of Emerging Concern – New 20.6.4.7.C(7) NMAC and Amended 20.6.4.13.F(1) NMAC. This language will allow NMED to regulate contaminants that are not routinely monitored and for which there are no regulatory standards. It therefore will be difficult to determine whether the concentrations of these contaminants are in amounts that will cause the effects listed in 20.6.4.13.F(1) NMAC. Furthermore, it is not clear whether, by specifically referencing this category of contaminants, NMED is given any additional authority. NMED should provide additional explanation concerning the bases of, and its intent for, these provisions.

4. Existing Use Analysis – New 20.6.4.10.B NMAC. NMED proposes to add language to this section that is directly from 40 CFR § 131.10. At the same time, NMED is proposing to implement this provision and use it to support the modification of the recreational use for several stream segments from "secondary" to "primary" contact. The proposed changes to the recreational uses for those segments are premature. The process for the "existing use analysis" should be

defined and approved prior to implementing it. "Supporting evidence" (the type and amount of data required) for this type of demonstration also should be defined. In addition, NMED should provide any analysis it has done in support of its proposals to upgrade recreational uses from secondary to primary contact.

5. Toxic Pollutants – Amendment to 20.6.4.13.F(1) NMAC. NMED is proposing to add a reference to the definition of "toxic pollutants" found in the Ground and Surface Water Protection Rules (20.6.2 NMAC) to the toxic pollutants regulation in the surface water quality standards. "Toxic pollutants" already is defined in the surface water quality standards at 20.6.4.7.T(2) NMAC. The inclusion of a reference to the 20.6.2 NMAC definition within the surface water quality standards is confusing and may cause conflict. The two definitions have existed in separate rules for many years, and NMED should explain why it is now proposing this amendment. In addition, like SJWC's comment concerning contaminants of emerging concern, NMED should explain how it intends to implement this provision for toxic pollutants for which there are no regulatory standards or very limited monitoring data.

6. Section 900 Criteria.

   a. 20.6.4.900.D NMAC - New Recreational Criteria for Microcystins and Cylindrospermopsin. NMED proposes to adopt maximum criteria for these cyanotoxins. Criteria for E. coli bacteria are based on a monthly geometric mean and single sample maximum. In *Recommended Human Health Recreational Ambient Water Quality Criteria or Swimming Advisories for Microcystins and Cylindrospermopsin* (EPA 822-R-19-001, page 76), EPA specified: "recommended criteria for these cyanotoxins that provide a magnitude (8 µg/L microcystins or 15 µg/L cylindrospermopsin) and duration (not to be exceeded in more than three 10-day assessment periods over the course of a recreational season)." *See* https://www.epa.gov/sites/production/files/2019-05/documents/hh-rec-criteria-habs-document-2019.pdf) EPA recommended the use of a "maximum" for swimming advisories only. NMED should justify the proposed duration as "maximum" for the cyanotoxins or change it to a monthly statistic similar to E. coli bacteria.

   b. 20.6.4.900.H(6) NMAC – Amendment to the Marginal Warmwater Aquatic Life Designated Use. NMED proposes to revise the language from "maximum temperature 32.2°C" to "temperatures that may routinely exceed 32.2°C." SJWC agrees that it is helpful to include language to distinguish between the warmwater and marginal warmwater designated uses. NMED should explain how it intends to implement this language, especially including detail on what "routinely" means.

   c. 20.6.4.900.I(1) and (2) NMAC - Proposed Revisions to Metals Tables.

i. The values for $\mathbf{m}_A$, $\mathbf{b}_A$, $\mathbf{m}_C$, $\mathbf{b}_C$ for Cadmium (Cd) and Zinc (Zn) are different than the current EPA recommended values. NMED should provide the basis for the difference. In most cases the values generate a more stringent criterion than the federal criterion.

ii. NMED should explain the basis for the Copper (Cu) and Manganese (Mn) values. EPA does not specify aquatic life criteria for those metals.

iii. EPA issued a new aluminum criterion in 2018 based on multiple linear regression (MLR) models. The criteria are a function of pH, total hardness, and dissolved organic carbon (DOC). NMED does not propose to adopt the MLR approach. NMED should explain why it is not proposing the MLR approach.

d. 20.6.4.900.I(3) NMAC. NMED proposes to amend select acute and chronic hardness-based metals criteria values for Chromium (Cr) III, Lead (Pb), Nickel (Ni), and Silver (Ag) without explanation. The equations in 20.6.4.900.I(1) and (2) NMAC have not changed. NMED should specify the reason(s) for its proposed changes.

e. 20.6.4.900.J NMAC. NMED proposes the following changes to be consistent with federal criteria pursuant to 40 CFR § 131.20. SJWC notes the following discrepancies.

i. NMED should provide the basis for the aquatic life criteria for Molybdenum, total recoverable. Currently, there are no equivalent EPA ambient water quality criteria for Molybdenum.

ii. NMED has not adopted acute and chronic criteria for Acrolein.

iii. The proposed changes for Benzene do not appear to meet the EPA recommended criteria. NMED should provide specific justification for the Benzene criteria.

iv. The human health organism only criterion for Dichlorodiphenyl-dichloroethylene (DDE) should be 0.00018 ug/L instead of 0.000018 ug/L because the surface water quality standards specify protection at 10^{-5} risk level.

Editorial Comments

1. Deletion of spacing. NMED should explain why it is proposing to delete certain spaces in the subject lines of many sections of the standards. This comment concerns the standards for which the deletion of spacing is the only proposed

change (subsections 107, 109, 111, 113-114, 117-123, 125, 127, 129-139, 201-205, 210-214, 216-219, 221-230, 301-306, 308, 310, 313–317, 401-402, 405-410, 451-453, 501, 504-505, 601-603, 701-702, 801-802, and 805-806 of 20.6.4 NMAC). NMED has proposed to include an "amendment" notation in the brackets containing the historical notes to reflect this formatting change. SJWC believes such a notation will cause confusion in the future when anyone is researching the substantive standards changes for a particular year. If the spaces proposed for deletion must be eliminated per *New Mexico Register* formatting requirements, perhaps a waiver is available that would eliminate the need to include the date of this non-substantive amendment in the history notes.

2. Definitions in General. SJWC supports the proposals to add newly defined terms and to move language from the substantive sections to the definitions.

3. 20.6.4.900.D NMAC. "Cylindropermopsin" should be "Cylindrospermopsin."

4. 20.6.4.900.J(1) NMAC. For "pentachlorobenzene," the CAS # should be 608-93-5 instead of 608-63-5.

Thank you for the opportunity to comment on NMED's proposed revisions to the State's surface water quality standards. SJWC reserves the right to supplement these comments, and to comment on any additional proposed changes, as the Triennial Review process proceeds.

Sincerely,

Aaron Chavez
Executive Director
San Juan Water Commission

STATE OF NEW MEXICO
BEFORE THE WATER QUALITY CONTROL COMMISSION

In the Matter of:	
PROPOSED AMENDMENTS TO *STANDARDS FOR INTERSTATE AND INTRASTATE WATERS*, 20.6.4 NMAC	**No. WQCC 14-05 (R)**

NEW MEXICO ENVIRONMENT DEPARTMENT, SURFACE WATER QUALITY BUREAU'S PETITION TO AMEND THE SURFACE WATER QUALITY STANDARDS (20.6.4 NMAC) AND REQUEST FOR HEARING

The Surface Water Quality Bureau ("Bureau") of the Resource Protection Division ("Division") of the New Mexico Environment Department ("Department") hereby petitions the Water Quality Control Commission ("Commission") to amend certain portions of the Commission's regulations in Title 20, Chapter 6, Part 4, of the New Mexico Administrative Code titled "*Standards for Interstate and Intrastate Surface Waters*" ("Rules"). The amendments are necessary pursuant to the federal Water Pollution Control Act, *a.k.a.*, "Clean Water Act" ("CWA"), 33 U.S.C. §§ 1251-1387 (2006), and related federal code provisions in 40 C.F.R. Part 131 (2011). The CWA at 33 U.S.C. §1313(c)(1), and the Rules at 20.6.4.10(A) NMAC, both require the State to, from time to time, review and update the Rules, but no longer than three (3) years from the last update. This process is generally known as the "Triennial Review." The Commission is designated by the New Mexico Legislature as the "state water pollution control agency for this state for all purposes of the federal [Water Pollution Control] act" (NMSA 1978, § 74-6-3(E) (2103)) and has the duty to "adopt water quality standards for surface and ground waters of the state" (NMSA 1978, § 74-6-4(E)). The Legislature further

provided that "the department of environment shall provide technical services … pursuant to the federal [Water Pollution Control] act" to the Commission. NMSA 1978, § 74-6-4(F). The Secretary has delegated this responsibility for technical services related to the Triennial Review to the Bureau.

Jurisdictional Authority

Pursuant to NMSA 1978, Section 74-6-1 to -17 (2014), ("Water Quality Act"), the Commission is authorized to amend the Rules. Specifically, the Legislature has provided the Commission with the authority to adopt "water quality standards for surface and ground waters of the state based on credible scientific data and other evidence appropriate under the [Act]." NMSA 1978, § 74-6-4(D). The rule amendment must however comply with Section 74-6-6. NMSA 1978, § 74-6-6.

Hearing Date & Hearing Officer

The Bureau requests that the Commission set the hearing date for the **March 10, 2015**, Commission meeting. The Bureau expects the public hearing to last for two (2) days depending on the level and extent of public involvement and participation. The Bureau has, as noted below, attempted to obtain pre-hearing comment(s) from the public to assist in expediting the public hearing and adoption process.

To facilitate the public hearing, the Bureau requests that the Commission appoint a Hearing Officer and authorize the Hearing Officer to adopt a prehearing schedule, conduct the hearing, and prepare post-hearing recommendations for the Commission.

The Bureau attaches hereto its proposed *Order for Hearing and Appointment of Hearing Officer* for the Commission's consideration.

Pre-Petition Public Involvement & Notice

The Bureau has, prior to this petition, published the announcement of a scoping phase and the intent to prepare the Triennial Review. On April 3, 2013, the Bureau invited public input for forty-three (43) days to identify issues of concern and to propose revisions for consideration in the standards ending on May 15, 2013. Bureau staff was available to meet with stakeholder groups, as requested, for informal discussions regarding their issues of concern. On April 1, 2014, the Bureau published a "Public Discussion Draft" of the proposed amendments and invited public comment for thirty (30) days. After receiving requests for an extension of the pre-petition comment period, the Division, via the Bureau, authorized an additional thirty (30)-day comment period finally ending May 30, 2014. Since that time, the Bureau reviewed and incorporated relevant pre-petition comments. If set for hearing pursuant to Section 302 of the Commissions' *Guidelines for Water Quality Control Commission Regulation Hearings* (Approved November 10, 1992; Amended June 8 1993), the Bureau will open the formal public comment period following publication of the proposed amendments in the required newspapers and delivery of public notice to required persons and entities.

Proposed Amendments & Statement of Reasons

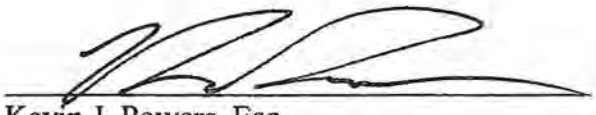
The 2013 Triennial Review Petition Proposed Amendments to Standards for Interstate and Intrastate Surface Waters 20.6.4 NMAC and Bases for Changes is attached. This document constitutes the statement of reasons for the proposed amendments.

WHEREFORE, the Bureau requests that the Commission set for hearing on the above date the proposed Rule amendments and appoint Felicia Orth as the Hearing Officer in this matter.

Respectfully submitted,

NEW MEXICO ENVIRONMENT DEPARTMENT

OFFICE OF GENERAL COUNSEL



Kevin J. Powers, Esq.
Assistant General Counsel
New Mexico Environment Department
1190 St. Francis Drive
Santa Fe, New Mexico 87505
Telephone (505) 827-2885

Attachments:

2013 Triennial Review Petition Proposed Amendments to Standards for Interstate and Intrastate Surface Waters 20.6.4 NMAC and Bases for Changes

Proposed Order for Hearing and Appointment of Hearing Officer

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing *New Mexico Environment Department, Surface Water Quality Bureau's Petition to Amend the Surface Water Quality Standards (20.6.4 NMAC) and Request for Hearing,* including attachments were indicated, was served on the following parties on this the 26th day of June, 2014 via the stated delivery methods below:

Hand delivery w/attachments: Ms. Pam Castaneda, Administrator Water Quality Control Commission Room N-2168, Runnels Building 1190 St. Francis Dr. Santa Fe, New Mexico 87505	

Kevin J. Powers, Asst. General Counsel
Office of General Counsel
New Mexico Environment Department

2013 TRIENNIAL REVIEW

PETITION

Proposed Amendments to
Standards for Interstate and Intrastate
Surface Waters 20.6.4 NMAC
and
Bases for Changes

New Mexico Environment Department
Surface Water Quality Bureau
Harold Runnels Building
1190 South St. Francis Drive
PO Box 26110
Santa Fe, New Mexico 87502

July 2014

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Attachments

1. Memo regarding most probable number (MPN) and colony forming units (cfu)
2. Justification for amending §20.6.4.16 Planned Use of a Piscicide by New Mexico Department of Game and Fish
3. Memo regarding Gila River description and specific conductivity changes segments 502 and 503
4. Draft Use Attainability Analysis (UAA) for Mimbres River segments 803, 804 and new segment 807

Hyperlinks to Use Attainability Analyses (UAAs)

1. HP UAAs for 18 non-perennial streams (statewide locations): http://www.nmenv.state.nm.us/swqb/documents/swqbdocs/Standards/UAA/UAA-UnclassifiedNon-PerennialReachesForNPDESPermits.pdf
2. HP UAAs for four non-perennial streams in southern New Mexico: http://www.nmenv.state.nm.us/swqb/documents/swqbdocs/Standards/UAA/HP/HydrologyProtocol-2013.pdf
3. HP UAAs for five drainages in the Chino Mine Investigation Area: http://www.nmenv.state.nm.us/swqb/UAA/Chino/index.html

Triennial Review Petition
July 2014

Introduction

This document contains the preliminary text of sections with the Bureau's proposal for changes followed by a brief rationale, or basis, for the change(s). Deleted materials are indicated by strikethrough, and changes to the rule text are indicated by underline. In some cases preceding a revision, sections are retained for context and clarity of scope.

Public Participation

The Surface Water Quality Bureau (Bureau) has, prior to this petition, published the announcement of a scoping phase and the intent to prepare for the Triennial Review. On April 3, 2013, the Bureau invited public input to identify issues of concern and to propose revisions for consideration in the standards, which ended on May 15, 2013. Bureau staff was also available to meet with stakeholder groups, as requested, for informal discussions regarding their issues of concern.

The Bureau published a Public Discussion Draft with proposals for changes to the water quality standards. The comment period for the Public Discussion Draft was conducted April 1 – May 30, 2014, and included a 30-day extension which was granted on April 28, 2014. The Bureau received formal comments from a variety of contributors including the U.S. Environmental Protection Agency (EPA), watershed/river conservation groups, municipalities, water districts, industrial/trade groups, private entities and citizens. Additions or changes to the water quality standards have been made in consideration of public comments received during the review period of the Bureau's Public Discussion Draft. There will be additional opportunities for public participation after the Bureau files the petition for a hearing on the revisions to the water quality standards with the Water Quality Control Commission.

TITLE 20 ENVIRONMENTAL PROTECTION
CHAPTER 6 WATER QUALITY
PART 4 STANDARDS FOR INTERSTATE AND INTRASTATE SURFACE WATERS

20.6.4.1 ISSUING AGENCY: Water Quality Control commission.
[20.6.4.1 NMAC - Rp 20 NMAC 6.1.1001, 10-12-00]

20.6.4.2 SCOPE: Except as otherwise provided by statute or regulation of the water quality control commission, this part governs all surface waters of the state of New Mexico, which are subject to the New Mexico Water Quality Act, Sections 74-6-1 through 74-6-17 NMSA 1978.
[20.6.4.2 NMAC - Rp 20 NMAC 6.1.1002, 10-12-00; A, 05-23-05]

20.6.4.3 STATUTORY AUTHORITY: This part is adopted by the water quality control commission pursuant to Subsection C of Section 74-6-4 NMSA 1978.
[20.6.4.3 NMAC - Rp 20 NMAC 6.1.1003, 10-12-00]

20.6.4.4 DURATION: Permanent.
[20.6.4.4 NMAC - Rp 20 NMAC 6.1.1004, 10-12-00]

20.6.4.5 EFFECTIVE DATE: October 12, 2000, unless a later date is indicated in the history note at the end of a section.
[20.6.4.5 NMAC - Rp 20 NMAC 6.1.1005, 10-12-00]

20.6.4.6 OBJECTIVE:

A. The purpose of this part is to establish water quality standards that consist of the designated use or uses of surface waters of the state, the water quality criteria necessary to protect the use or uses and an antidegradation policy.

B. The state of New Mexico is required under the New Mexico Water Quality Act (Subsection C of Section 74-6-4 NMSA 1978) and the federal Clean Water Act, as amended (33 U.S.C. Section 1251 *et seq*.) to adopt water quality standards that protect the public health or welfare, enhance the quality of water and are consistent with and serve the purposes of the New Mexico Water Quality Act and the federal Clean Water Act. It is the objective of the federal Clean Water Act to restore and maintain the chemical, physical and biological integrity of the nation's waters, including those in New Mexico. This part is consistent with Section 101(a)(2) of the federal Clean Water Act, which declares that it is the national goal that wherever attainable, an interim goal of water quality that provides for the protection and propagation of fish, shellfish and wildlife and provides for recreation in and on the water be achieved by July 1, 1983. Agricultural, municipal, domestic and industrial water supply are other essential uses of New Mexico's surface water; however, water contaminants resulting from these activities will not be permitted to lower the quality of surface waters of the state below that required for protection and propagation of fish, shellfish and wildlife and recreation in and on the water, where practicable.

C. Pursuant to Subsection A of Section 74-6-12 NMSA 1978, this part does not grant to the water quality control commission or to any other entity the power to take away or modify property rights in water.
[20.6.4.6 NMAC - Rp 20 NMAC 6.1.1006, 10-12-00; A, 05-23-05]

20.6.4.7 DEFINITIONS: Terms defined in the New Mexico Water Quality Act, but not defined in this part will have the meaning given in the Water Quality Act.

A. Terms beginning with numerals or the letter "A," and abbreviations for units.

(1) "4T3 temperature" means the temperature not to be exceeded for four or more consecutive hours in a 24-hour period on more than three consecutive days.

(2) "6T3 temperature" means the temperature not to be exceeded for six or more consecutive hours in a 24-hour period on more than three consecutive days.

(3) Abbreviations used to indicate units are defined as follows:

(a) "cfu/100 mL" means colony-forming units per 100 milliliters.

20.6.4.7.A(3)(b) through 20.6.4.7.A(3)(f) – No changes proposed

(g) "MPN" means most probable number per 100 milliliters.

(gh) "NTU" means nephelometric turbidity unit;

(~~h~~i) "pCi/L" means picocuries per liter.

(j) "pH" means the measure of the acidity or alkalinity and is expressed in standard units (su).

BASIS FOR CHANGE: The Bureau is proposing the addition of language to Subsections D and E of 20.6.4.900 NMAC that acknowledges the use of alternate enumeration methods for most probable number (MPN) approved by EPA (68 FR 43272, July 21, 2003 and 72 FR 14220, March 26, 2007) and used for the detection of enterococci and *E. coli* in ambient waters and in wastewater and sludge. Therefore, the abbreviation and units for most probable number (as MPN) is added (see also the memo in Attachment 1).

A definition for pH and the unit of measure for pH, standard units, is also suggested to be included in the abbreviations as pH is mentioned throughout the water quality standards, but neither pH nor its unit of measure (su) is defined.

20.6.4.7.A(4) through 20.6.4.7.B(4) – No changes proposed

C. Terms beginning with the letter "C".

(1) "**CAS number**" means an assigned number by chemical abstract service (CAS) to identify a substance. CAS numbers index information published in chemical abstracts by the American chemical society.

(2) "Chronic toxicity" means toxicity involving a stimulus that lingers or continues for a relatively long period relative to the life span of an organism. Chronic effects include, but are not limited to, lethality, growth impairment, behavioral modifications, disease and reduced reproduction.

(3) "Classified water of the state" means a surface water of the state, or reach of a surface water of the state, for which the commission has adopted a segment description and has designated a use or uses and applicable water quality criteria in 20.6.4.101 through 20.6.4.899 NMAC.

(4) "Closed basin" is a basin where topography prevents the surface outflow of water and water escapes by evapotranspiration or percolation.

(45) "Coldwater" in reference to an aquatic life use means a surface water of the state where the water temperature and other characteristics are suitable for the support or propagation or both of coldwater aquatic life.

(~~5~~6) "Coolwater" in reference to an aquatic life use means the water temperature and other characteristics are suitable for the support or propagation of aquatic life whose physiological tolerances are intermediate between and may overlap those of warm and coldwater aquatic life.

(67) "Commission" means the New Mexico water quality control commission.

(~~7~~8) "Criteria" are elements of state water quality standards, expressed as constituent concentrations, levels or narrative statements, representing a quality of water that supports a use. When criteria are met, water quality will protect the designated use.

BASIS FOR CHANGE: A definition for 'closed basin' is added.

20.6.4.7.D through 20.6.4.7.H(2) – No changes proposed

I. Terms beginning with the letter "I".

(1) "Industrial water supply" means the use or storage of water by a facility for process operations unless the water is supplied by a public water system. Industrial water supply does not include irrigation or other agricultural uses.

(2) "Intermittent" when used to describe a surface water of the state means the water body contains water for extended periods only at certain times of the year, such as when it receives seasonal flow from springs or melting snow.

(3) "Interstate waters" means all surface waters of the state that cross or form a part of the border between states.

(4) "Intrastate waters" means all surface waters of the state that are not interstate waters.

(5) "Irrigation" ~~or **"irrigation storage"**~~ means application of water to land areas to supply the water needs of beneficial plants.

(6) "Irrigation storage" means storage of water to supply the needs of beneficial plants.

J. Terms beginning with the letter "J". [RESERVED]

K. Terms beginning with the letter "K". [RESERVED]

BASIS FOR CHANGE: Most reservoirs classified in the water quality standards include the designated use 'irrigation storage' as described in Subsection C of 20.6.4.900 NMAC. The irrigation and irrigation storage designated uses have identical criteria assigned in Subsections C and J, of 20.6.4.900 NMAC, but irrigation storage is not defined in Subsection I, subparagraph I(5) of 20.6.4.7 NMAC. Therefore, a definition for irrigation storage is added.

20.6.4.7.L – through 20.6.4.W(5) - No changes proposed

X. Terms beginning with the letters "X" through "Z". [RESERVED]

[20.6.4.7 NMAC - Rp 20 NMAC 6.1.1007, 10-12-00; A, 7-19-01; A, 05-23-05; A, 07-17-05; A, 08-01-07; A, 12-01-10; A, 01-14-11, A, XX-XX-XX]

20.6.4.10 REVIEW OF STANDARDS; NEED FOR ADDITIONAL STUDIES:

A. Section 303(c)(1) of the federal Clean Water Act requires that the state hold public hearings at least once every three years for the purpose of reviewing water quality standards and proposing, as appropriate, necessary revisions to water quality standards.

B. It is recognized that, in some cases, numeric criteria have been adopted that reflect use designations rather than existing conditions of surface waters of the state. Narrative criteria are required for many constituents because accurate data on background levels are lacking. More intensive water quality monitoring may identify surface waters of the state where existing quality is considerably better than the established criteria. When justified by sufficient data and information, the water quality criteria will be modified to protect the attainable uses.

C. It is also recognized that contributions of water contaminants by diffuse nonpoint sources of water pollution may make attainment of certain criteria difficult. Revision of these criteria may be necessary as new information is obtained on nonpoint sources and other problems unique to semi-arid regions.

D. Site-specific criteria.

(1) The commission may adopt site-specific numeric criteria applicable to all or part of a surface water of the state based on relevant site-specific conditions such as:

(a) actual species at a site are more or less sensitive than those used in the national criteria data set;

(b) physical or chemical characteristics at a site such as pH or hardness alter the biological availability and/or toxicity of the chemical;

(c) physical, biological or chemical factors alter the bioaccumulation potential of a chemical;

(d) the concentration resulting from natural background exceeds numeric criteria for aquatic life, wildlife habitat or other uses if consistent with Subsection E of 20.6.4.10 NMAC; or

(e) other factors or combination of factors that upon review of the commission may warrant modification of the default criteria, subject to EPA review and approval.

(2) Site-specific criteria must fully protect the designated use to which they apply. In the case of human health-organism only criteria, site-specific criteria must fully protect human health when organisms are consumed from waters containing pollutants.

(3) Any person may petition the commission to adopt site-specific criteria. A petition for the adoption of site-specific criteria shall:

(a) identify the specific waters to which the site-specific criteria would apply;

(b) explain the rationale for proposing the site-specific criteria;

(c) describe the methods used to notify and solicit input from potential stakeholders and from the general public in the affected area, and present and respond to the public input received;

(d) present and justify the derivation of the proposed criteria.

(4) A derivation of site-specific criteria shall rely on a scientifically defensible method, such as one of the following:

(a) the recalculation procedure, the water-effect ratio for metals procedure or the resident species procedure as described in the water quality standards handbook (EPA-823-B-94-005a, 2nd edition, August 1994);

(b) the streamlined water-effect ratio procedure for discharges of copper (EPA-822-R-01-005, March 2001);

(c) the biotic ligand model as described in aquatic life ambient freshwater quality criteria - copper (EPA-822-R-07-001, February 2007);

(d) the methodology for deriving ambient water quality criteria for the protection of human health (EPA-822-B-00-004, October 2000) and associated technical support documents; or

(e) a determination of the natural background of the water body as described in Subsection E of 20.6.4.10 NMAC.

E. Site-specific criteria based on natural background. The commission may adopt site-specific criteria equal to the concentration resulting from natural background where that concentration protects the designated use. The concentration resulting from natural background supports the level of aquatic life and wildlife habitat expected to occur naturally at the site absent any interference by humans. Domestic water supply, primary or secondary

contact, or human health-organism only criteria shall not be modified based on natural background. A determination of natural background shall:

(1) consider natural spatial and seasonal to interannual variability as appropriate;

(2) document the presence of natural sources of the pollutant;

(3) document the absence of human sources of the pollutant or quantify the human contribution; and

(4) rely on analytical, statistical or modeling methodologies to quantify the natural background.

~~[20.6.4.10 NMAC - Rp 20 NMAC 6.1.1102, 10-12-00; Rn, 20.6.4.9 NMAC, 05-23-05; A, 05-23-05; A, 12-01-10]~~

F. Temporary Standards.

(1) Any person may petition the commission to adopt a temporary standard applicable to all or part of a surface water of the state as provided for in this section. The commission may adopt a proposed temporary standard if the petitioner demonstrates that:

(a) attainment of the associated designated use may not be feasible in the short term due to one or more of the factors listed in 40 CFR 131.10(g) as demonstrated by the petition and supporting work plan requirements in paragraphs (4), (5) and (6) below;

(b) the proposed temporary standard represents the highest degree of protection feasible in the short term, limits the further degradation of water quality to the minimum necessary to achieve the original standard by the expiration date of the temporary standard, and adoption will not cause the further impairment or loss of an existing use;

(c) for point sources, existing or proposed discharge control technologies will comply with applicable technology-based limitations and feasible technological controls and other management alternatives, such as a pollution prevention program; and

(d) for restoration activities, nonpoint source or other control technologies shall limit downstream impacts, and if applicable, existing or proposed discharge control technologies shall be in place consistent with subparagraph (c).

(2) A temporary standard shall apply to specific pollutant(s), and to specific water body segment(s). The adoption of a temporary standard does not exempt dischargers from complying with all other applicable water quality standards or control technologies.

(3) Designated uses shall not be modified on a temporary basis. Designated use attainment as reported in the CWA Section 305(b)/303(d) Integrated Report shall be based on the original standard and not on a temporary standard.

(4) A petition for a temporary standard shall:

(a) identify the currently applicable standard(s), the proposed temporary standard and the surface water(s) of the state to which the temporary standard would apply;

(b) demonstrate that the proposed temporary standard meets the requirements in this Subsection;

(c) present a work plan and timetable for achieving compliance with the original standard;

(d) include any other information necessary to support the petition.

(5) As a condition of a petition for a temporary standard, in addition to meeting the requirements in this Subsection, the petitioner shall prepare a supporting work plan in accordance with subparagraph (6) to conduct the analysis required in this Subsection, and submit the work plan to the department for review and comment. Upon revision of the work plan based

on input from the department, the petitioner shall conduct the analyses in accordance with the work plan. The department or the petitioner may petition the commission to adopt a temporary standard if the conclusions of the analysis support such action.

(6) The work plan to support a temporary standard petition shall identify the factor(s) listed in 40 CFR 131.10(g) affecting attainment of the standard that will be analyzed and the timeline for specific actions to be taken to achieve the uses attainable over the term of the temporary standard, including baseline water quality, and any investigations, projects, facility modifications, monitoring, or other measures necessary to achieve compliance with the original standard. The work plan shall include provisions for review of progress in accordance with subparagraph (9), public notice and consultation with appropriate state and federal agencies.

(7) The commission may condition the approval of a temporary standard by requiring additional monitoring, relevant analyses, the completion of specified projects, submittal of information, or any other actions.

(8) Temporary standards may be implemented only after appropriate public participation, commission approval and adoption pursuant to this Subsection for all state purposes, and EPA Clean Water Act Section 303 (c) approval for any federal action.

(9) All temporary standards are subject to a required review during each succeeding review of water quality standards conducted in accordance with Subsection A of 20.6.4.10 NMAC. The purpose of the review is to determine progress consistent with the original conditions of the petition for the duration of the temporary standard. If sufficient progress has not been made the commission may revoke approval of the temporary standard or provide additional conditions to the approval of the temporary standard.

(10) The commission may consider a petition to extend a temporary standard. The effective period of a temporary standard shall be extended only if demonstrated to the department that the factors precluding attainment of the underlying standard still apply, that the petitioner is meeting the conditions required for approval of the temporary standard, and that reasonable progress towards meeting the underlying standard is being achieved.

(11) A temporary standard shall expire no later than the date specified in the approval of the temporary standard. Upon expiration of a temporary standard, the original standard becomes applicable.

(12) Temporary standards shall be identified in 20.6.4.97 – 899 NMAC as appropriate for the surface water affected.

[20.6.4.10 NMAC - Rp 20 NMAC 6.1.1102, 10-12-00; Rn, 20.6.4.9 NMAC, 05-23-05; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

BASIS FOR CHANGE: The federal water quality standards (WQS) regulations at 40 CFR 131 and the federal permitting regulations at 40 CFR 122 provide a number of tools for states and tribes to adopt that allow for regulatory flexibilities when implementing WQS programs. States can adopt procedures or rules for allowing development of site-specific criteria, revision of designated uses, provisions for dilution allowances or mixing zones, permit compliance schedules, enactment of variances, and temporary or interim water quality standards. New Mexico has already adopted several of these federally approved tools to assist point and non-point sources meet designated uses and applicable water quality criteria.

The EPA defines an interim or temporary water quality standard as a "time limited designated use [or] criteria" (EPA Publication No. EPA-820-F-13-012, March 2013). The temporary

standard may be appropriate where "groups of permitees are experiencing the same challenges in meeting their water quality based effluent limits…for the same pollutant, regardless of whether or not the permitees are located on the same waterbody." *Id.* The state may adopt or implement a temporary water quality standard where an applicant, through a public hearing process, reasonably demonstrates that the unmodified applicable standard is not attainable based on those factors in 40 CFR 131.10(g). The central principal of this tool, as compared to site-specific studies or change of designated use(s), is that the underlying designated use and criteria are not changed, modified or replaced. Where implemented, the interim or temporary water quality standard(s) requires regulated facilities to implement adaptive and increasingly restrictive controls or technology which may not be then available or practical, but is necessary to improve the overall water quality.

While EPA's guidance document refers to temporary or interim water quality standard as a type of 'variance,' the New Mexico Water Quality Act, NMSA 1978, 74-6-1, to -17., and ensuing regulations already describe "variance" as an individual discharge permit-specific exclusion from regulation. *See generally* NMSA 1978, § 74-6-4 (h). The Bureau finds that the term 'temporary standard' is more appropriate within the scope of the water quality standards and avoids confusion with other state variance rules and regulations. As proposed here, and as required by 40 CFR Part 131, an applicant proposing the interim or temporary water quality standard must satisfy the WQCC's public notice, hearing, and appellate procedures before adoption. The EPA must also authorize the State's adoption of the temporary standard. In sum, these amendments will provide well documented and authorized flexibility to regulated entities in meeting the state's water quality standards.

The language in Subsection F, 20.6.4.10 NMAC is also proposed in consideration of comments received during the public review of the Bureau's Public Discussion Draft. For example, several commenters noted, and EPA clarified, that while the justification for a temporary standard is must be based on one of the 40 CFR 131.10(g) factors, it is not necessary to conduct a UAA because the underlying uses and criteria will not be changed. EPA also recommended the term 'temporary standard' as opposed to 'temporary criteria' to allow the state broader flexibility in applying the provision (i.e., applicable to uses and/or criteria). Also, as mentioned previously, the term 'temporary standard' keeps the requirements and process of the provision within the context of the water quality standards.

20.6.4.12 COMPLIANCE WITH WATER QUALITY STANDARDS: The following provisions apply to determining compliance for enforcement purposes; they do not apply for purposes of determining attainment of uses. The department has developed assessment protocols for the purpose of determining attainment of uses that are available for review from the department's surface water quality bureau.

A. Compliance with acute water quality criteria shall be determined from the analytical results of a single grab sample. Acute criteria shall not be exceeded.

20.6.4.12.B through 20.6.4.12.F NMAC no changes

G. Compliance Schedules: It shall be the policy of the commission to allow on a case-by-case basis the inclusion of a schedule of compliance in a NPDES permit issued to an

existing facility. Such schedule of compliance will be for the purpose of providing a permittee with adequate time to make treatment facility modifications necessary to comply with water quality based permit limitations determined to be necessary to implement new or revised water quality standards or wasteload allocation. Compliance schedules may be included in NPDES permits at the time of permit renewal or modification and shall be written to require compliance at the earliest practicable time. Compliance schedules shall also specify milestone dates so as to measure progress towards final project completion (e.g., design completion, construction start, construction completion, date of compliance).

H. It shall be a policy of the commission to allow a temporary standard approved and adopted pursuant to Subsection F of 20.6.4.10 NMAC to be included in the applicable NPDES permit as enforceable limits and conditions. The temporary standard and schedule of actions may be included at the earliest practicable time, and shall specify milestone dates so as to measure progress towards meeting the original standard.
[20.6.4.12 NMAC - Rp 20 NMAC 6.1.1104, 10-12-00; A, 10-11-02; Rn, 20.6.4.11 NMAC, 05-23-05; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

BASIS FOR CHANGE: Subsection H is added to 20.6.4.12 NMAC to allow use of an approved temporary standard by EPA in drafting or modifying NPDES permits; and in that case, to include the temporary standard and associated requirements as enforceable limits and conditions in the permit.

20.6.4.11 – 20.6.4.15 – No changes proposed.

20.6.4.16 PLANNED USE OF A PISCICIDE: The use of a piscicide registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. Section 136 *et seq*., and under the New Mexico Pesticide Control Act (NMPCA), Section 76-4-1 *et seq*. NMSA 1978 (1973) in a surface water of the state, shall not be a violation of Subsection F of 20.6.4.13 NMAC when such use is covered by a federal National Pollutant Discharge Elimination System (NPDES) permit has been approved by the commission under procedures provided in this section. The use of a piscicide which is covered by a NPDES permit shall require no further review by the commission and the person whose application is covered by the NPDES shall meet the additional notification and monitoring requirements outlined in Subsection F of 20.6.4.16 NMAC. The commission may approve the reasonable use of a piscicide under this section if the proposed use is not covered by a NPDES permit to further a Clean Water Act objective to restore and maintain the physical or biological integrity of surface waters of the state, including restoration of native species.

A. Any person seeking commission approval of the use of a piscicide not covered by a NPDES permit shall file a written petition concurrently with the commission and the surface water bureau of the department. The petition shall contain, at a minimum, the following information:

(1) petitioner's name and address;

(2) identity of the piscicide and the period of time (not to exceed five years) or number of applications for which approval is requested;

(3) documentation of registration under FIFRA and NMPCA and certification that the petitioner intends to use the piscicide according to the label directions, for its intended function;

(4) target and potential non-target species in the treated waters and adjacent riparian area, including threatened or endangered species;

(5) potential environmental consequences to the treated waters and the adjacent riparian area, and protocols for limiting such impacts;

(6) surface water of the state proposed for treatment;

(7) results of pre-treatment survey;

(8) evaluation of available alternatives and justification for selecting piscicide use;

(9) post-treatment assessment monitoring protocol; and

(10) any other information required by the commission.

B. Within thirty days of receipt of the petition, the department shall review the petition and file a recommendation with the commission to grant, grant with conditions or deny the petition. The recommendation shall include reasons, and a copy shall be sent to the petitioner by certified mail.

C. The commission shall review the petition and the department's recommendation and ~~shall~~ within 90 days of receipt of the department's recommendation may hold a public hearing in the locality affected by the proposed use in accordance with Adjudicatory Procedures, 20.1.3 NMAC. In addition to the public notice requirements in Adjudicatory Procedures, 20.1.3 NMAC, the petitioner shall provide written notice to:

(1) local political subdivisions;

(2) local water planning entities;

(3) local conservancy and irrigation districts; and

(4) local media outlets, except that the petitioner shall only be required to publish notice in a newspaper of circulation in the locality affected by the proposed use.

D. In a hearing provided for in this Section or, if no hearing is held, in a commission meeting, the registration of a piscicide under FIFRA and NMPCA shall provide a rebuttable presumption that the determinations of the EPA Administrator in registering the piscicide, as outlined in 7 U.S.C. Section 136a(c)(5), are valid. For purposes of this Section the rebuttable presumptions regarding the piscicide include:

(1) Its composition is such as to warrant the proposed claims for it;

(2) Its labeling and other material submitted for registration comply with the requirements of FIFRA and NMPCA;

(3) It will perform its intended function without unreasonable adverse effects on the environment; and

(4) When used in accordance with all FIFRA label requirements it will not generally cause unreasonable adverse effects on the environment.

(5) "Unreasonable adverse effects on the environment" has the meaning provided in FIFRA, 7 U.S.C. Section 136(bb): "any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide."

E. After a public hearing or commission meeting, if no hearing is held, the commission may grant the petition in whole or in part, may grant the petition subject to conditions, or may deny the petition. In granting any petition in whole or part or subject to conditions, the commission shall require the petitioner to implement post-treatment assessment monitoring and provide notice to the public in the immediate and near downstream vicinity of the application prior to and during the application.

F. Any person whose application is covered by a NPDES permit shall provide written notice to local entities as described in 20.6.4.16 subsections C (1) to (4) and subsection (E) and implement post-treatment assessment monitoring within the application area.
[20.6.4.16 NMAC - Rn, Paragraph (6) of Subsection F of 20.6.4.12 NMAC, 05-23-05; A, 05-23-05; A, XX-XX-XX]

BASIS FOR CHANGE: Language in the water quality standards for piscicide application was first developed during the 1998-99 Triennial Revisions to address species management and restoration by the New Mexico Department of Game and Fish (NMDGF), and was approved by the Water Quality Control Commission (WQCC) on December 30, 1999. During the 2003-05 Triennial Revisions, the language was revised to streamline processes, and moved to a new section (20.6.4.16 NMAC). These changes were adopted by the WQCC and submitted with the other Triennial Revisions for EPA's approval under CWA 303 (c). At the time, EPA was not compelled to determine whether the application of piscicides was subject to EPA's National Pollutant Discharge Elimination System (NPDES) permit regulations. While EPA was supportive of 20.6.4.16 NMAC for restoration purposes, it was considered a State rule that was not subject to EPA's CWA 303(c) approval.

In January 2009, a federal court ruling determined certain pesticide applications, including those for piscicides, were subject to the EPA NPDES permit regulations; the federal rule was finalized on October 31, 2011. Consequently, in addition to requirements under the State's rules certain applicators (i.e., NMDGF) are required to also have a NPDES permit and may apply for coverage under the EPA's NPDES permit program Pesticide General Permit (PGP). In order to avoid duplication in fulfilling both state and federal requirements, the Bureau is proposing to update the piscicide provision by including an exemption for those covered under the EPA's NPDES permit program.

The NPDES permit program includes both individual permits and general permits, such as the PGP. If an applicator has coverage under an EPA NPDES permit or PGP, no further review by the Bureau or the Commission is required. The applicator however must still meet the additional notification and monitoring requirements outlined in Subsection F. If an applicator is not covered under an EPA NPDES permit, the requirements in Subsection A. (1) – (10) and Subsection B (Bureau review and recommendation within 30 days) must still be met. Also, if an applicator is not covered under an EPA permit, Subsection C is revised to allow the Commission discretion on whether to conduct/hold a public hearing for piscicide application in the affected locality. However, the petitioner is still held to the written notice requirements in Subsection C. (1) – (4). Subsections D and E are revised to be consistent with the Commission's discretion to hold either a meeting or public hearing as specified in Subsection C, but otherwise the requirements in Subsections D and E are not proposed for revision. Subsection F is proposed to ensure that the notification and post monitoring processes required under the state provisions but not required in the federal NPDES PGP permit are adhered to. See also the memo in Attachment 2.

20.6.4.17 - 20.6.4.49: [RESERVED]

20.6.4.50 BASINWIDE PROVISIONS - Special provisions arising from interstate compacts, international treaties or court decrees or that otherwise apply to a basin are contained in 20.6.4.51 through 20.6.4.59 NMAC.
[20.6.4.50 NMAC - N, 05-23-05]

20.6.4.51: [RESERVED]

20.6.4.52 PECOS RIVER BASIN - In order to protect existing and designated uses, it is a goal of the state of New Mexico to prevent increases in TDS in the Pecos river above the following benchmark values, which are expressed as flow-weighted, annual average concentrations, at three USGS gaging stations: at Santa Rosa 500 mg/L; near Artesia 2,700 mg/L; and near Malaga 3,600 mg/L. The benchmark values serve to guide state action. They are adopted pursuant to the New Mexico Water Quality Act, not the Clean Water Act.
[20.6.4.52 NMAC - N, 12-01-10]

20.6.4.53: [RESERVED]

20.6.4.54 COLORADO RIVER BASIN - For the tributaries of the Colorado river system, the state of New Mexico will cooperate with the Colorado river basin states and the federal government to support and implement the salinity policy and program outlined in the most current "review, water quality standards for salinity, Colorado river system" or equivalent report by the Colorado river salinity control forum.

A. Numeric criteria expressed as the flow-weighted annual average concentration for salinity are established at three points in the Colorado river basin as follows: below Hoover dam, 723 mg/L; below Parker dam, 747 mg/L; and at Imperial dam, 879 mg/L.

B. As a part of the program, objectives for New Mexico shall include the elimination of discharges of water containing solids in solution as a result of the use of water to control or convey fly ash from coal-fired electric generators, wherever practicable.
[20.6.4.54 NMAC - Rn, Paragraphs (1) through (3) of Subsection K of 20.6.4.12 NMAC, 05-23-05; A, 05-23-05]

20.6.4.55 - 20.6.4.96: [RESERVED]

20.6.4.97 EPHEMERAL WATERS - Ephemeral ~~unclassified~~ surface waters of the state as identified below and additional ephemeral waters as identified on the department's water quality standards website pursuant to Subsection C of 20.6.4.15 NMAC.

A. Designated Uses: livestock watering, wildlife habitat, limited aquatic life and secondary contact.

B. Criteria: the use-specific criteria in 20.6.4.900 NMAC are applicable to the designated uses.

C. Waters:

(1) the following waters are designated in the **Rio Grande basin**:

(a) Cunningham gulch from Santa Fe county road 55 upstream 1.4 miles to a point upstream of the LAC Minerals mine, identified as Ortiz Mine on USGS topographic maps;

(b) an unnamed tributary from Arroyo Hondo upstream 0.4 miles to the Village of Oshara water reclamation facility outfall;

(c) an unnamed tributary from San Pedro creek upstream 0.8 miles to the PAA-KO community sewer outfall;

(d) Inditos draw from the crossing of an unnamed road along a power line one-quarter mile west of McKinley county road 19 upstream to New Mexico highway 509;

(e) an unnamed tributary from the diversion channel connecting Blue canyon and Socorro canyon upstream 0.6 miles to the New Mexico Firefighters Academy treatment facility outfall;

(f) an unnamed tributary from the AMAFCA Rio Grande south channel upstream of the crossing of New Mexico highway 47 upstream to I-25;

(g) the south fork of Cañon del Piojo from Canon del Piojo upstream 1.2 miles to an unnamed tributary;

(h) an unnamed tributary from the south fork of Cañon del Piojo upstream 1 mile to the Resurrection mine outfall;

(i) Arroyo del Puerto from San Mateo creek upstream 6.8 miles to the Ambrosia Lake mine entrance road;

(j) an unnamed tributary from San Mateo creek upstream 1.5 miles to the Roca Honda mine facility outfall in NPDES permit number;

(k) San Isidro arroyo from the Lee Ranch mine facility outfall upstream to Tinaja arroyo;

(l) Tinaja arroyo from San Isidro arroyo upstream to Mulatto canyon; and

(m) Mulatto canyon from Tinaja arroyo upstream to 1 mile northeast of the Cibola national forest boundary.

(2) the following waters are designated in the **Pecos river basin**:

(a) an unnamed tributary from Hart canyon upstream 1 mile to South Union road;

(b) Aqua Chiquita from Rio Peñasco to upstream of McEwan canyon; and

(c) Grindstone canyon upstream of Grindstone Reservoir.

(3) the following waters are designated in the **Canadian river basin**:

(a) Bracket canyon upstream of the Vermejo river;

(b) an unnamed tributary from Bracket canyon upstream 2 miles to the Ancho mine; and

(c) Gachupin canyon from the Vermejo river upstream 2.9 miles to an unnamed west tributary near the Ancho mine outfall.

(4) in the **San Juan river basin** an unnamed tributary of Kim-me-ni-oli wash upstream of the mine outfall.

(5) the following waters are designated in the **Little Colorado river basin**:

(a) Defiance draw from County Road 1 to upstream of West Defiance Road; and

(b) an unnamed tributary of Defiance draw from McKinley County Road 1 upstream to New Mexico Highway 264.

(6) the following waters are designated in the **closed basins**:

(a) in the Tularosa river closed basin San Andres canyon downstream of South San Andres canyon; and

(b) in the Mimbres river closed basin:

(i) San Vicente arroyo from the Mimbres river upstream to Maude's canyon;

(ii) Chino mines property Subwatershed Drainage A and tributaries thereof;

(iii) Chino Mines property Subwatershed Drainage B and tributaries thereof (excluding the northwest tributary containing Ash Spring);

(iv) Chino Mines property Subwatershed Drainage C and tributaries thereof (excluding reaches containing Bolton spring, the Chiracahua Leopard Frog critical habitat transect, and all reaches in Subwatershed C that are upstream of the Chiracahua Leopard Frog critical habitat);

(v) Subwatershed Drainage D and tributaries thereof (Drainages D-1, D-2 and D-3, excluding the southeast tributary in drainage D1 that contains Brown Spring); and,

(vi) Subwatershed Drainage E and tributaries thereof (Drainages E-1, E-2 and E-3).

[20.6.4.97 NMAC - N, 05-23-05; A, 12-01-10; A, XX-XX-XX]
~~[**NOTE:** Effective 12-01-10, no waters are yet approved for listing in Subsection C of this section.]~~

BASIS FOR CHANGE: Amendments to the state's water quality standards during the 2005 and 2009 triennial revisions, and subsequent approvals by the WQCC and EPA allow the use of the Bureau's Hydrology Protocol (HP) to support the revisions of standards for ephemeral waters. In accordance with Subsection C of 20.6.4.15 NMAC, this protocol can be used to provide technical support for a Use Attainability Analysis (UAA) to determine the hydrology of waters or to characterize waters, within an otherwise classified segment. The process for implementing the HP was approved as an appendix to the Department's Water Quality Management Plan/Continuing Planning Process document (WQMP/CPP) by the WQCC on May 10, 2011, and by EPA on December 23, 2011.

The Bureau is petitioning the Commission to list waters previously granted technical approval by EPA as ephemeral under Subsection C of 20.6.4.97 NMAC. The Bureau has also submitted additional HP UAAs to EPA for technical approval, as indicated below. Once approved by the WQCC and adopted as standards, the Bureau will submit the revised water quality standards (as published in the New Mexico Register) to EPA for formal review and final approval action under Section 303(c) of the CWA.

The Bureau is also proposing removal of the term "unclassified" for those waters which have been characterized as ephemeral under the HP, and adds the term "surface" to be consistent with the term "surface water(s) of the state" defined in Subsection S of 20.6.4.7 NMAC.

For ephemeral waters proposed under Subsection C, 20.6.4.97 NMAC: C (1); C (2) (a); (C) (3); (C) (4), and (C) (5). The Bureau has completed the application of the HP to document the hydrologic condition of unclassified, non-perennial stream segments associated with 13 NPDES permitted facilities located throughout New Mexico. The results supported a UAA finding that the streams are ephemeral, that primary contact and warmwater aquatic life uses are not attainable due to natural conditions, and that the appropriate water quality standards designation for these streams is under Section 20.6.4.97 NMAC. In accordance with the regulations in Subsection C, 20.6.4.15 NMAC and the WQMP/CPP procedures, the UAAs were posted on the

Bureau's water quality standards website for a 30-day public comment period ending on August 27, 2012. The UAAs and responses to comments were submitted to EPA on October 11, 2012 for formal technical approval. EPA has provided technical approval of these UAAs on December 30, 2013, concluding that the uses and criteria apply as described in Section 20.6.4.97 NMAC for all regulatory purposes under the CWA. The applicability of Section 20.6.4.97 NMAC to these waters was posted on the Bureau's water quality standards website following EPA's technical approval. The waters are proposed to be listed in Subsection C, 20.6.4.97 NMAC. Once approved and adopted by the WQCC, the revisions will be submitted to EPA for final 303(c) approval.

For ephemeral waters proposed under Subsection C, 20.6.4.97 NMAC: C (2) (b) and (c); and C (6) (a) and (b)(i). The Bureau has completed the application of the HP to document the hydrologic condition of four unclassified, non-perennial stream segments in the Pecos River basin, Tularosa River closed basin and the Mimbres River closed basin and finds that the designated uses applicable to 20.6.4.97 NMAC are appropriate and attainable. As required by Subsection C, 20.6.4.15 NMAC, these UAAs were posted on the Bureaus' website on August 14, 2013. Comment was invited during the 30-day public review which ended on September 13, 2013. There was one comment in support of the UAA; the report and supporting documents were sent to EPA for technical approval on October 17, 2013. EPA's technical approval was provided on December 19, 2013**.**

For ephemeral waters proposed under Subsection C, 20.6.4.97 NMAC: C (6) (b)(ii)-(vi); Chino Mines property Subwatershed Drainages A, B, C, D and E (as described). The Bureau's HP UAA process was conducted by Freeport MacMoRan (Chino Mines) to determine the appropriate water quality standards for five non-perennial drainages located in the Mimbres watershed. As required by Subsection C, 20.6.4.15 NMAC, these UAAs were posted on the Bureau's website on January 15, 2013. Comment was invited during the 30-day public review which ended on February 14, 2013. In response to public and Bureau comments, further reconnaissance was conducted by the Department and as a result, the UAAs revised from the public noticed draft. The revised UAA report and supporting documents (public comments received, and the Bureau's response to comments) were sent to EPA for technical approval on June 28, 2013; EPA's technical approval is pending**.**

20.6.4.98 INTERMITTENT WATERS - All non-perennial ~~unclassified~~ surface waters of the state, except those ephemeral waters included under 20.6.4.97 NMAC or classified in 20.6.4.100 thru 899.

A. Designated Uses: livestock watering, wildlife habitat, marginal warmwater aquatic life and primary contact.

B. Criteria: the use-specific criteria in 20.6.4.900 NMAC are applicable to the designated uses, except that the following site-specific criteria apply: the monthly geometric mean of E. coli bacteria 206 cfu/100 mL or less, single sample 940 cfu/100 mL or less. [20.6.4.98 NMAC - N, 05-23-05; A, 12-01-10; A, XX-XX-XX]]

20.6.4.99 PERENNIAL WATERS - All perennial ~~unclassified~~ surface waters of the state except those classified in 20.6.4.100 thru 899.

A. Designated Uses: warmwater aquatic life, livestock watering, wildlife habitat and primary contact.

B. Criteria: the use-specific criteria in 20.6.4.900 NMAC are applicable to the designated uses, except that the following site-specific criteria apply: the monthly geometric mean of E. coli bacteria 206 cfu/100 mL or less, single sample 940 cfu/100 mL or less.
[20.6.4.99 NMAC - N, 05-23-05; A, 12-01-10; A, XX-XX-XX]]

BASIS FOR CHANGE: The Bureau is proposing removal of the term "unclassified" in Sections 20.6.4.98 and 20.6.4.99 NMAC. The term "surface" is added to be consistent with the term "surface water(s) of the state" which is defined in Subsection S of 20.6.4.7 NMAC. In previous Triennial and interim revisions, the Bureau has clarified the presumption of CWA Section 101(a)(2) uses for all surface water of the state, including those not "classified" or described in segments under Sections 20.6.4.101-.899 NMAC.

20.6.4.100: [RESERVED]

20.6.4.101 RIO GRANDE BASIN - The main stem of the Rio Grande from the international boundary with Mexico upstream to one mile ~~below~~ downstream of Percha dam.

A. Designated Uses: irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat and primary contact.

B. Criteria:

(1) The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses except that the following segment-specific criterion applies: temperature 34°C (93.2°F) or less.

(2) At mean monthly flows above 350 cfs, the monthly average concentration for: TDS 2,000 mg/L or less, sulfate 500 mg/L or less and chloride 400 mg/L or less.

C. Remarks: sustained flow in the Rio Grande below Caballo reservoir is dependent on release from Caballo reservoir during the irrigation season; at other times of the year, there may be little or no flow.
[20.6.4.101 NMAC - Rp 20 NMAC 6.1.2101, 10-12-00; A, 12-15-01; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]]

BASIS FOR CHANGE: The word 'below' is replaced with the hydrologic term 'downstream of' in the segment description.

20.6.4.102 RIO GRANDE BASIN - The main stem of the Rio Grande from one mile ~~below~~ downstream of Percha dam upstream to Caballo dam.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, primary contact and warmwater aquatic life.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criteria apply: the monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.

C. Remarks: sustained flow in the Rio Grande below Caballo reservoir is dependent on release from Caballo reservoir during the irrigation season; at other times of the year, there may be little or no flow.
[20.6.4.102 NMAC - Rp 20 NMAC 6.1.2102, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]]

BASIS FOR CHANGE: The word 'below' is replaced with the hydrologic term 'downstream of' in the segment description.

20.6.4.103 RIO GRANDE BASIN - The main stem of the Rio Grande from the headwaters of Caballo reservoir upstream to Elephant Butte dam and perennial reaches of tributaries to the Rio Grande in Sierra and Socorro counties, excluding waters on tribal lands.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, marginal coldwater aquatic life, ~~secondary~~ primary contact and warmwater aquatic life.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

C. Remarks: flow in this reach of the Rio Grande main stem is dependent upon release from Elephant Butte dam.
[20.6.4.103 NMAC - Rp 20 NMAC 6.1.2103, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]]

BASIS FOR CHANGE: The State shall from time to time, but at least once every three years, review applicable water quality standards and, as appropriate, modify and adopt standards. Any water body segment with water quality standards that do not include the uses specified in 40 CFR § 131.20 shall be re-examined to determine if any new information has become available. If such new information indicates that the uses specified in the CWA Section 101(a)(2) are attainable, the State shall revise its standards accordingly. While swimming in this area is "at your own risk", this portion of the Rio Grande is accessible for swimming and bodily contact can occur with a risk of ingesting water. The Bureau has no evidence that this use is not attainable and primary contact use may be existing and is likely attainable. Also, to be consistent with the latest EPA recommendations for recreational contact and CWA Section 101(a) goals (77 FR71191, November 29, 2012), the designated use for secondary contact is upgraded to the primary contact use with corresponding criteria.

20.6.4.104 – 20.6.4.109 – No changes proposed.

20.6.4.110 RIO GRANDE BASIN - The main stem of the Rio Grande from Angostura diversion works upstream to Cochiti dam, excluding the reaches on San Felipe, ~~Santo Domingo~~Kewa and Cochiti pueblos.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, primary contact, coldwater aquatic life and warmwater aquatic life.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criteria apply: pH within the range of 6.6 to 9.0 and temperature 25°C (77°F) or less.

[20.6.4.110 NMAC - Rp 20 NMAC 6.1.2108, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]]

BASIS FOR CHANGE: In 2009, the Pueblo formerly known as Santa Domingo officially changed its name to Kewa Pueblo; therefore, this change is proposed to be incorporated into the segment description.

20.6.4.111 – 20.6.4.115 – No changes proposed.

20.6.4.116 RIO GRANDE BASIN - The Rio Chama from its mouth on the Rio Grande upstream to Abiquiu reservoir, perennial reaches of the Rio Tusas, perennial reaches of the Rio Ojo Caliente, perennial reaches of Abiquiu creek and perennial reaches of El Rito creek ~~below~~ downstream of the town of El Rito.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, coldwater aquatic life, warmwater aquatic life and ~~secondary~~ primary contact.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criterion applies: temperature 31°C (87.8°F) or less.

[20.6.4.116 NMAC - Rp 20 NMAC 6.1.2113, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]]

BASIS FOR CHANGE: The word 'below' is replaced with the hydrologic term 'downstream of' in the segment description. Also, the State shall from time to time, but at least once every three years, review applicable water quality standards and, as appropriate, modify and adopt standards. Any water body segment with water quality standards that do not include the uses specified in 40 CFR § 131.20 shall be re-examined to determine if any new information has become available. If such new information indicates that the uses specified in the CWA Section 101(a)(2) are attainable, the State shall revise its standards accordingly. This segment includes Rio Ojo Caliente; the Ohkay Owingeh surface water quality standards downstream are assigned the primary contact recreation use, and the Rio Grande at the confluence is also designated as primary contact recreation. The Bureau has no evidence that this use is not attainable and information indicates that primary contact use may be existing and is likely attainable. To be consistent with the latest EPA recommendations for recreational contact and CWA Section 101(a) goals (77 FR71191, November 29, 2012), the designated use for secondary contact is upgraded to the primary contact use with corresponding criteria.

20.6.4.117 – 20.6.4.123 – No changes proposed.

20.6.4.124 RIO GRANDE BASIN - Perennial reaches of Sulphur creek from ~~its headwaters to~~ its confluence with Redondo creek upstream to its headwaters.

A. Designated Uses: limited aquatic life, wildlife habitat, livestock watering and ~~secondary~~ primary contact.

B. Criteria: the use-specific criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criteria apply: pH within the range of 2.0 to 9.0, maximum temperature 30ºC (86ºF), and the chronic aquatic life criteria of Subsections I and J of 20.6.4.900 NMAC.

[20.6.4.124 NMAC - N, 05-23-05; A, 12-01-10; A, XX-XX-XX]

BASIS FOR CHANGE: The wording in the segment description is changed to more accurately describe the reach in hydrologic terms from the downstream confluence upstream to its headwaters. Also, the State shall from time to time, but at least once every three years, review applicable water quality standards and, as appropriate, modify and adopt standards. Any water body segment with water quality standards that do not include the uses specified in 40 CFR § 131.20 shall be re-examined to determine if any new information has become available. If such new information indicates that the uses specified in the CWA Section 101(a)(2) are attainable, the State shall revise its standards accordingly. The Bureau has no evidence that this use is not attainable and information from surveys indicates that primary contact use may be existing and is likely attainable. To be consistent with the latest EPA recommendations for recreational contact and CWA Section 101(a) goals (77 FR71191, November 29, 2012), the designated use for secondary contact is upgraded to the primary contact use with corresponding criteria.

20.6.4.125 – 20.6.4.203 – No changes proposed.

20.6.4.204 PECOS RIVER BASIN - The main stem of the Pecos river from the headwaters of Avalon reservoir upstream to Brantley dam.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, ~~secondary~~ primary contact and warmwater aquatic life.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

[20.6.4.204 NMAC - Rp 20 NMAC 6.1.2204, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

[**NOTE:** The segment covered by this section was divided effective 05-23-05. The standards for Avalon Reservoir are under 20.6.4.219 NMAC.]

BASIS FOR CHANGE: The State shall from time to time, but at least once every three years, review applicable water quality standards and, as appropriate, modify and adopt standards. Any water body segment with water quality standards that do not include the uses specified in 40 CFR § 131.20 shall be re-examined to determine if any new information has become available. If such new information indicates that the uses specified in the CWA Section 101(a)(2) are attainable, the State shall revise its standards accordingly. The Bureau has no evidence that this use is not attainable and information indicates that primary contact use may be existing and is likely attainable. To be consistent with the latest EPA recommendations for recreational contact and CWA Section 101(a) goals (77 FR71191, November 29, 2012), the designated use for secondary contact is upgraded to the primary contact use with corresponding criteria.

20.6.4.205 PECOS RIVER BASIN - Brantley reservoir.

A. Designated Uses: irrigation storage, livestock watering, wildlife habitat, primary contact and warmwater aquatic life.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

[20.6.4.205 NMAC - Rp 20 NMAC 6.1.2205, 10-12-00; A, 05-23-05; A, 12-01-10]

20.6.4.206 PECOS RIVER BASIN - The main stem of the Pecos river from the headwaters of Brantley reservoir upstream to Salt creek (near Acme), perennial reaches of the Rio Peñasco downstream from state highway 24 near Dunken, perennial reaches of the Rio Hondo and its tributaries ~~below~~ downstream of Bonney canyon and perennial reaches of the Rio Felix.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, ~~secondary~~ primary contact and warmwater aquatic life.

B. Criteria:

(1) The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

(2) At all flows above 50 cfs: TDS 14,000 mg/L or less, sulfate 3,000 mg/L or less and chloride 6,000 mg/L or less.

[20.6.4.206 NMAC - Rp 20 NMAC 6.1.2206, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

BASIS FOR CHANGE: The word 'below' is replaced with the hydrologic term 'downstream of' in the segment description. Also, the State shall from time to time, but at least once every three years, review applicable water quality standards and, as appropriate, modify and adopt standards. Any water body segment with water quality standards that do not include the uses specified in 40 CFR § 131.20 shall be re-examined to determine if any new information has become available. If such new information indicates that the uses specified in the CWA Section 101(a)(2) are attainable, the State shall revise its standards accordingly. The Department has no evidence that this use is not attainable and information indicates that primary contact use may be existing and is likely attainable. To be consistent with the latest EPA recommendations for recreational contact and CWA 101(a) goals (77 FR71191, November 29, 2012), the designated use for secondary contact is upgraded to the primary contact use with corresponding criteria.

20.6.4.207 PECOS RIVER BASIN - The main stem of the Pecos river from Salt creek (near Acme) upstream to Sumner dam.

A. Designated Uses: irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat and ~~secondary~~ primary contact.

B. Criteria:

(1) The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

(2) At all flows above 50 cfs: TDS 8,000 mg/L or less, sulfate 2,500 mg/L or less and chloride 4,000 mg/L or less.

[20.6.4.207 NMAC - Rp 20 NMAC 6.1.2207, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

BASIS FOR CHANGE: The State shall from time to time, but at least once every three years, review applicable water quality standards and, as appropriate, modify and adopt standards. Any water body segment with water quality standards that do not include the uses specified in 40 CFR § 131.20 shall be re-examined to determine if any new information has become available. If such new information indicates that the uses specified in the CWA Section 101(a)(2) are attainable, the State shall revise its standards accordingly. Surveys have been conducted by the Department during 2005 and 2013. During the 2013 survey, it was observed this segment likely has an existing use of primary contact. While access is difficult in very remote locations, it can

be accomplished. The Department has no evidence that this use is not attainable and information indicates that primary contact use may be existing and is likely attainable. To be consistent with the latest EPA recommendations for recreational contact and CWA 101(a) goals (77 FR71191, November 29, 2012), the designated use for secondary contact is upgraded to the primary contact use with corresponding criteria.

20.6.4.208 – 20.6.4.212 – No changes proposed.

20.6.4.213 PECOS RIVER BASIN - McAllister lake.

A. Designated Uses: coldwater aquatic life, ~~secondary~~ primary contact, livestock watering and wildlife habitat.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criterion applies: temperature 25°C (77°F) or less.

[20.6.4.213 NMAC - Rp 20 NMAC 6.1.2211.3, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

BASIS FOR CHANGE: The State shall from time to time, but at least once every three years, review applicable water quality standards and, as appropriate, modify and adopt standards. Any water body segment with water quality standards that do not include the uses specified in 40 CFR § 131.20 shall be re-examined to determine if any new information has become available. If such new information indicates that the uses specified in the CWA Section 101(a)(2) are attainable, the State shall revise its standards accordingly. The lake is a state park and national wildlife refuge. The area is open for boating, fishing and camping activities in the spring, summer and fall. The Department has no evidence that the primary contact use is not attainable and information indicates that primary contact use may be existing and is likely attainable. To be consistent with the latest EPA recommendations for recreational contact and CWA 101(a) goals (77 FR71191, November 29, 2012), the designated use for secondary contact is upgraded to the primary contact use with corresponding criteria.

20.6.4.214 – 20.6.4.218 – No changes proposed.

20.6.4.219 PECOS RIVER BASIN - Avalon reservoir.

A. Designated Uses: irrigation storage, livestock watering, wildlife habitat, ~~secondary~~ primary contact and warmwater aquatic life.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

[20.6.4.219 NMAC - N, 05-23-05; A, 12-01-10; A, XX-XX-XX]

BASIS FOR CHANGE: The State shall from time to time, but at least once every three years, review applicable water quality standards and, as appropriate, modify and adopt standards. Any water body segment with water quality standards that do not include the uses specified in 40 CFR § 131.20 shall be re-examined to determine if any new information has become available. If such new information indicates that the uses specified in the CWA Section 101(a)(2) are attainable, the State shall revise its standards accordingly. In this case, kayaking and scuba for game fishing are activities allowed and described on the reservoir park website. The Department

has no evidence that this use is not attainable and information indicates that primary contact use may be existing and is likely attainable. To be consistent with the latest EPA recommendations for recreational contact and CWA 101(a) goals (77 FR71191, November 29, 2012), the designated use for secondary contact is upgraded to the primary contact use with corresponding criteria.

20.6.4.220 – 20.6.4.304 – No changes proposed.

20.6.4.305 CANADIAN RIVER BASIN - The main stem of the Canadian river from the headwaters of Conchas reservoir upstream to the New Mexico-Colorado line, perennial reaches of the Conchas river, the Mora river downstream from the USGS gaging station near Shoemaker, the Vermejo river downstream from Rail canyon and perennial reaches of Raton, Chicorica (except Lake Maloya and Lake Alice) and Uña de Gato creeks.

A. Designated Uses: irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat and primary contact.

B. Criteria:

(1) The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

(2) TDS 3,500 mg/L or less at flows above 10 cfs.

[20.6.4.305 NMAC - Rp 20 NMAC 6.1.2305, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

[**NOTE:** This segment was divided effective 12-01-10. The standards for ~~Lake Maloya and~~ Lake Alice and Lake Maloya are under 20.6.4.311 and 20.6.4.312 NMAC, respectively.]

BASIS FOR CHANGE: Grammatical correction/edit.

20.6.4.306 – 20.6.4.307 – No changes proposed.

20.6.4.308 CANADIAN RIVER BASIN - Charette lakes.

A. Designated Uses: coldwater aquatic life, warmwater aquatic life, ~~secondary~~ primary contact, livestock watering and wildlife habitat.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

[20.6.4.308 NMAC - Rp 20 NMAC 6.1.2305.5, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

BASIS FOR CHANGE: The State shall from time to time, but at least once every three years, review applicable water quality standards and, as appropriate, modify and adopt standards. Any water body segment with water quality standards that do not include the uses specified in 40 CFR § 131.20 shall be re-examined to determine if any new information has become available. If such new information indicates that the uses specified in the CWA Section 101(a)(2) are attainable, the State shall revise its standards accordingly. Charette Lake is a state park with access for fishing, swimming or other primary contact activities. The Department has no evidence that this use is not attainable and information indicates that primary contact use may be existing and is likely attainable. To be consistent with the latest EPA recommendations for

recreational contact and CWA 101(a) goals (77 FR71191, November 29, 2012), the designated use for secondary contact is upgraded to the primary contact use with corresponding criteria.

20.6.4.309 – 20.6.4.316 – No changes proposed.

20.6.4.317 CANADIAN RIVER BASIN - Springer lake.

A. Designated Uses: coolwater aquatic life, irrigation, primary contact, livestock watering, ~~and~~ wildlife habitat, and public water supply.

B. Criteria: The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

[20.6.4.317 NMAC - N, 07-10-12; A, XX-XX-XX]

BASIS FOR CHANGE: Springer Lake is a public water supply for Colfax County (Water System Number NM3526604); this designated use is an existing use that is proposed be added to the water body segment description.

20.6.4.318 - 20.6.4.400: [RESERVED]

20.6.4.401 SAN JUAN RIVER BASIN - The main stem of the San Juan river from the Navajo Nation boundary at the Hogback upstream to its confluence with the Animas river. Some waters in this segment are under the joint jurisdiction of the state and the Navajo Nation.

A. Designated Uses: public water supply, industrial water supply, irrigation, livestock watering, wildlife habitat, primary contact, marginal coldwater aquatic life and warmwater aquatic life.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criterion applies: temperature 32.2°C (90°F) or less.

[20.6.4.401 NMAC - Rp 20 NMAC 6.1.2401, 10-12-00; A, 05-23-05; A, 12-01-10]

[**NOTE:** The segment covered by this section was divided effective 05-23-05. The standards for the additional segment are under 20.6.4.408 NMAC.]

20.6.4.402 SAN JUAN RIVER BASIN - La Plata river from its confluence with the San Juan river upstream to the New Mexico-Colorado line.

A. Designated Uses: irrigation, marginal warmwater aquatic life, marginal coldwater aquatic life, livestock watering, wildlife habitat and primary contact.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criterion applies: temperature 32.2°C (90°F) or less.

[20.6.4.402 NMAC - Rp 20 NMAC 6.1.2402, 10-12-00; A, 05-23-05; A, 12-01-10]

20.6.4.403 SAN JUAN RIVER BASIN - The Animas river from its confluence with the San Juan river upstream to Estes Arroyo.

A. Designated Uses: public water supply, industrial water supply, irrigation, livestock watering, wildlife habitat, ~~marginal coldwater~~ coolwater aquatic life, and primary contact ~~and warmwater aquatic life~~.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses~~.~~, except that the following segment-specific criterion applies: temperature 27°C (80.6°F) or less.
[20.6.4.403 NMAC - Rp 20 NMAC 6.1.2403, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

BASIS FOR CHANGE: The word 'river' is added in the segment description. Changes shown to the aquatic life uses and temperature criteria to the lower Animas River are supported by a draft UAA *Aquatic Life Uses for the Animas River in New Mexico* posted on the Bureau's website for public comment on November 20, 2013; a public meeting was held on December 17, 2013. After consideration of public comments, the revised UAA and responses to comments will be submitted to EPA for technical approval. Once technically approved by EPA, the UAA and recommended changes will be submitted to the WQCC for approval and adoption into the water quality standards. The Bureau will submit the UAA, standards revisions and relative supporting documentation to EPA for final approval under Clean Water Act Section 303(c). Depending on the timing, these actions may be concurrent with the Triennial review process.

20.6.4.404 SAN JUAN RIVER BASIN - The Animas river from Estes Arroyo upstream to the ~~New Mexico-Colorado line~~ Southern Ute Indian tribal boundary.

A. Designated Uses: ~~coldwater~~coolwater aquatic life, irrigation, livestock watering, wildlife habitat, public water supply, industrial water supply and primary contact.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criterion applies: phosphorus (unfiltered sample) 0.1 mg/L or less.
[20.6.4.404 NMAC - Rp 20 NMAC 6.1.2404, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

BASIS FOR CHANGE: The segment description is corrected to reflect the jurisdictional boundary with the Southern Ute Indian Tribe. The aquatic life use change to the upper Animas River is supported by a draft UAA *Aquatic Life Uses for the Animas River in New Mexico* which was posted on the Bureau's website for public comment on November 20, 2013; a public meeting was held on December 17, 2013. After consideration of public comments, the revised UAA and responses to comments will be submitted to EPA for technical approval. Once technically approved by EPA, the UAA and recommended changes will be submitted to the Commission (WQCC) for approval and adoption into the water quality standards. The Bureau will submit the UAA, standards revisions and relative supporting documentation to EPA for final approval under Clean Water Act Section 303(c). Depending on the timing, these actions may be concurrent with the Triennial review process.

20.6.4.405 – 20.6.4.502 – No changes proposed.

20.6.4.502 GILA RIVER BASIN - The main stem of the Gila river from Redrock canyon upstream to the confluence of the West Fork Gila river and East Fork Gila river and perennial reaches of tributaries to the Gila river ~~below~~ downstream of Mogollon creek.

A. Designated Uses: industrial water supply, irrigation, livestock watering, wildlife habitat, marginal coldwater aquatic life, primary contact and warmwater aquatic life.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criterion applies: 28°C (82.4°F) or less.
[20.6.4.502 NMAC - Rp 20 NMAC 6.1.2502, 10-12-00; A, 05-23-05; A, 12-01-10]

BASIS FOR CHANGE: The word 'below' is replaced with the hydrologic term 'downstream of' in the segment description.

20.6.4.503 GILA RIVER BASIN - All perennial tributaries to the Gila river ~~above~~ upstream of, and including, Mogollon creek.

A. Designated Uses: domestic water supply, high quality coldwater aquatic life, irrigation, livestock watering, wildlife habitat and primary contact.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criteria apply: specific conductance of 400 µS/cm or less for all perennial tributaries except West Fork Gila and perennial tributaries thereto, specific conductance of 300 µS/cm or less.; 32.2°C (90°F) or less in the east fork of the Gila river and Sapillo creek ~~below~~ downstream of Lake Roberts; the monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.
[20.6.4.503 NMAC - Rp 20 NMAC 6.1.2503, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

BASIS FOR CHANGE: The words 'above' and 'below' are replaced with the hydrological terms 'upstream of' and 'downstream of', respectively. A correction is also necessary to the description for the portion of the Gila River system with segment specific criteria assigned in Subsection B of 20.6.4.503 NMAC. The section of the Gila River referred to as the "main stem of the Gila River above the Gila Hot Springs" is actually the West Branch (or West Fork) Gila River. The main stem of the Gila River begins from the confluence of the West and East Forks of the Gila River, and extends downstream from the confluence. An analysis of specific conductivity in the reaches was also conducted and supports this correction. See also the memo in Attachment 3.

20.6.4.504 – 20.6.4.802 – No changes proposed.

20.6.4.803 CLOSED BASINS - Perennial reaches of the Mimbres river downstream of the confluence with ~~Willow Springs~~ Allie canyon and all perennial reaches of tributaries thereto.

A. Designated Uses: ~~coldwater~~ coolwater aquatic life, irrigation, livestock watering, wildlife habitat and primary contact.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criteria apply: the monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less~~.~~ and 30°C (86°F) or less.
[20.6.4.803 NMAC - Rp 20 NMAC 6.1.2803, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

20.6.4.804 CLOSED BASINS - Perennial reaches of the Mimbres river upstream of the confluence with ~~Willow Springs~~ Allie canyon upstream to Cooney canyon, and all perennial reaches of East Fork Mimbres (McKnight canyon) below the fish barrier, and all perennial tributaries thereto.

A. Designated Uses: irrigation, domestic water supply, ~~high quality~~ coldwater aquatic life, livestock watering, wildlife habitat and primary contact.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criteria apply: specific conductance 300 µS/cm or less; the monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.

[20.6.4.804 NMAC - Rp 20 NMAC 6.1.2804, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

20.6.4.805 – 20.6.4.806 – No changes proposed.

20.6.4.807 CLOSED BASINS - Perennial reaches of the Mimbres river upstream of Cooney Canyon and all perennial reaches thereto, including perennial reaches of East Fork Mimbres river (McKnight Canyon) above the fish barrier.

A. Designated Uses: irrigation, domestic water supply, high quality coldwater aquatic life, livestock watering, wildlife habitat and primary contact.

[20.6.4.807 NMAC – N, XX-XX-XX]

BASIS FOR CHANGE: A draft UAA indicating changes to aquatic life designated uses and criteria for segments 20.6.4.803 NMAC, 20.6.4.804 NMAC and addition of a new segment 20.6.4.807 NMAC is part of this Triennial Review discussion draft (see Mimbres UAA, Attachment 4). The draft UAA study recommends that from the headwaters of the Mimbres River to Cooney Canyon, including all perennial tributaries from the 23d ecoregion (Subalpine forests), should remain designated as high quality coldwater aquatic life use. The segment extending from Allie Canyon to Cooney Canyon (the "Middle Mimbres") should be designated as coldwater aquatic life use and the segment from Allie Canyon to the mouth should be designated as coolwater aquatic life use.

After consideration of public comments, the revised UAA and responses to comments will be submitted to EPA for technical approval. Once technically approved by EPA, the UAA and recommended changes will be submitted to the WQCC for approval and adoption into the water quality standards. The Bureau will submit the UAA, standards revisions and relative supporting documentation to EPA for final approval under CWA Section 303(c). Depending on the timing, these actions may or may not be concurrent with the Triennial review process.

20.6.4.807 - 20.6.4.899: [RESERVED]

20.6.4.900 CRITERIA APPLICABLE TO EXISTING, DESIGNATED OR ATTAINABLE USES UNLESS OTHERWISE SPECIFIED IN 20.6.4.97 THROUGH 20.6.4.899 NMAC.

A. Fish Culture and Water Supply: Fish culture, public water supply and industrial water supply are designated uses in particular classified waters of the state where these

uses are actually being realized. However, no numeric criteria apply uniquely to these uses. Water quality adequate for these uses is ensured by the general criteria and numeric criteria for bacterial quality, pH and temperature.

BASIS FOR CHANGE: Correction of a minor typographical error requires inserting a space between the word 'Culture' and the word 'and.'

Subsection B, 20.6.4.900 –Subsection C, 20.6.4.900 – No changes proposed.

D. Primary Contact: the monthly geometric mean of E. coli bacteria of 126 cfu/100 mL or MPN/100 ml and single sample of 410 cfu/100 mL or MPN/100 mL and pH within the range of 6.6 to 9.0 apply to this use. The results for *E. coli* may be reported as either cfu (colony forming units) or the most probable number (MPN) as appropriate based on the test method used.

E. Secondary Contact: the monthly geometric mean of E. coli bacteria of 548 cfu/100 mL or MPN/100 mL and single sample of 2507 cfu/100 mL or MPN/100 mL apply to this use. The results for *E. coli* may be reported as either cfu (colony forming units) or the most probable number (MPN) as appropriate based on the test method used.

BASIS FOR CHANGE: EPA Region 6 has requested that the state's water quality standards and TMDL guidance refer to use of both colony forming units (cfu) and most probable number (MPN). The use of more cost-effective and time efficient methods in which counts are expressed as MPN/100 ml was approved by EPA for testing ambient waters in 2003[1] and for wastewater and sewage sludge in 2007[2]. The Bureau is currently using an approved EPA method for sampling and analyzing bacteria levels in ambient water and which reports results in MPN/100 ml. The currently recommended EPA recreational or bacteria criteria for *E. coli* are expressed as cfu/100 ml measured using *EPA Method 1603* or any other equivalent method that measures culturable *E. coli* [3,4]. Therefore, the water quality standards are proposed to be revised to reflect the use of updated methods for monitoring, assessment and reporting. References for EPA Method 1603 and EPA's final rules establishing alternate test procedures may be included in 20.6.4.901 NMAC as references (see also the memo in Attachment 1).

Subsection F through Subsection H, Subparagraph (1) of 20.6.4.900 – No changes proposed.

(2) Coldwater: dissolved oxygen 6.0 mg/L or more, 6T3 temperature 20°C (68°F), maximum temperature 24°C (75°F) and pH within the range of 6.6 to 8.8. Where a single segment-specific temperature criterion is indicated in 20.6.4.101-899 NMAC, it is the maximum temperature and no 6T3 temperature applies.

[1] *U.S. Federal Register* - 40 CFR Part 136 Vol. 68, No. 139; July 21, 2003.
[2] *U.S. Federal Register* - 40 CFR Parts 136 and 503, Vol. 72, No. 157; March 26, 2007.
[3] EPA, 2012: http://water.epa.gov/scitech/swguidance/standards/criteria/health/recreation/upload/factsheet2012.pdf
[4] USEPA. 2002. Method 1603: *Escherichia coli* (*E. coli*) In Water By Membrane Filtration Using Modified membrane-Thermotolerant *Escherichia coli* Agar (modified mTEC). U.S. Environmental Protection Agency, Office of Water, Washington D.C. EPA–821–R–02–023.

(3) Marginal Coldwater: dissolved oxygen 6.0 mg/L or more, 6T3 temperature 25°C (77°F), maximum temperature 29°C (84°F) and pH within the range from 6.6 to 9.0. Where a single segment-specific temperature criterion is indicated in 20.6.4.101-899 NMAC, it is the maximum temperature and no 6T3 temperature applies.

(4) Coolwater: dissolved oxygen 5.0 mg/L or more, maximum temperature 29°C (84°F) and pH within the range of 6.6 to 9.0.

(5) Warmwater: dissolved oxygen 5.0 mg/L or more, maximum temperature 32.2°C (90°F) and pH within the range of 6.6 to 9.0. Where a segment-specific temperature criterion is indicated in 20.6.4.101-899 NMAC, it is the maximum temperature.

(6) Marginal Warmwater: dissolved oxygen 5.0 mg/L or more, pH within the range of 6.6 to 9.0 and maximum temperature 32.2°C (90°F). Where a segment-specific temperature criterion is indicated in 20.6.4.101-899 NMAC, it is the maximum temperature.

BASIS FOR CHANGE: Dissolved oxygen criteria are revised to show decimal places in Subsection H, subparagraphs (3), (5) and (6) of 20.6.4 NMAC, consistent with dissolved oxygen criteria for the other aquatic life designated uses.

(7) Limited Aquatic Life: The acute aquatic life criteria of Subsections I and J of this section apply to this subcategory. Chronic aquatic life criteria do not apply unless adopted on a segment-specific basis. Human health-organism only criteria apply only for persistent pollutants unless adopted on a segment-specific basis.

I. Hardness-dependent acute and chronic aquatic life criteria for metals are calculated using the following equations. The criteria are expressed as a function of dissolved hardness (as mg $CaCO_3$/L). With the exception of aluminum, the equations are valid only for dissolved hardness concentrations of 0-400 mg/L. For dissolved hardness concentrations above 400 mg/L, the criteria for 400 mg/L apply. For aluminum the equations are valid only for dissolved hardness concentrations of 0-220 mg/L. For dissolved hardness concentrations above 220 mg/L, the aluminum criteria for 220 mg/L apply.

(1) Acute aquatic life criteria for metals. The equation to calculate acute criteria in µg/L is $\exp(m_A[\ln(\text{hardness})] + b_A)(CF)$. Except for aluminum, the criteria are based on analysis of dissolved metal. For aluminum, the criteria are based on analysis of total recoverable aluminum in a sample that is filtered to minimize mineral phases as specified by the department. EPA approved the hardness-based equation for total recoverable aluminum as applicable only where the pH is equal to or greater than 6.5 in the receiving stream after mixing. When pH is less than 6.5 in the receiving stream after mixing, the more stringent of either the 87 ug/L chronic total recoverable aluminum criterion or the criterion resulting from the chronic hardness-based equation is applicable.

BASIS FOR CHANGE: EPA approved the revised hardness-based criteria for chromium III, copper, lead, manganese, nickel and silver, aluminum, cadmium and zinc that were adopted during the 2009 Triennial Revision. However, for aluminum, EPA did not approve the acute or chronic hardness-based criteria for waters with a pH below 6.5 and recommended the state adopt the exception into its water quality standards. The Bureau is proposing to incorporate EPA's decision for aluminum criteria during this Triennial revision. Where the pH is less than 6.5 in the receiving stream after mixing, the more stringent of either the 87 ug/L chronic total recoverable

aluminum criterion or the criterion resulting from the chronic hardness-based equation will apply. Therefore, the proposed language in Subsection I, subparagraphs (1) and (2) of 20.6.4.900 NMAC is revised accordingly.

Metal	**m_A**	**b_A**	**Conversion factor (CF)**
Aluminum (Al)	1.3695	1.8308	
Cadmium (Cd)	0.8968	-3.5699	1.136672-[(ln hardness)(0.041838)]
Chromium (Cr) III	0.8190	3.7256	0.316
Copper (Cu)	0.9422	-1.700	0.960
Lead (Pb)	1.273	-1.460	1.46203-[(ln hardness)(0.145712)]
Manganese (Mn)	0.3331	6.4676	
Nickel (Ni)	0.8460	2.255	0.998
Silver (Ag)	1.72	-6.59	0.85
Zinc (Zn)	0.9094	0.9095	0.978

(2) Chronic aquatic life criteria for metals. The equation to calculate chronic criteria in µg/L is $\exp(m_C[\ln(\text{hardness})] + b_C)(CF)$**.** Except for aluminum, the criteria are based on analysis of dissolved metal. For aluminum, the criteria are based on analysis of total recoverable aluminum in a sample that is filtered to minimize mineral phases as specified by the department. EPA approved the hardness-based equation for total recoverable aluminum as applicable only where the pH is equal to or greater than 6.5 in the receiving stream after mixing. When pH is less than 6.5 in the receiving stream after mixing, the more stringent of either the 87 ug/L chronic total recoverable aluminum criterion or the criterion resulting from the chronic hardness-based equation is applicable. The equation parameters are as follows:

BASIS FOR CHANGE: EPA approved the revised hardness-based criteria for chromium III, copper, lead, manganese, nickel and silver, aluminum, cadmium and zinc that were adopted during the 2009 Triennial Revision. However, for aluminum, EPA did not approve the acute or chronic hardness-based criteria for waters with a pH below 6.5 and recommended the state adopt the exception into its water quality standards. The Bureau is proposing to incorporate EPA's decision for chronic aluminum criteria during this Triennial revision. Where the pH is less than 6.5 in the receiving stream after mixing, the more stringent of either the 87 ug/L chronic total recoverable aluminum criterion or the criterion resulting from the chronic hardness-based equation will apply. Therefore, the proposed language in Subsection I, subparagraphs (1) and (2) of 20.6.4.900 NMAC is revised accordingly.

Metal	**m_C**	**b_C**	**Conversion factor (CF)**
Aluminum (Al)	1.3695	0.9161	
Cadmium (Cd)	0.7647	-4.2180	1.101672-[(ln hardness)(0.041838)]
Chromium (Cr) III	0.8190	0.6848	0.860
Copper (Cu)	0.8545	-1.702	0.960
Lead (Pb)	1.273	-4.705	1.46203-[(ln hardness)(0.145712)]
Manganese (Mn)	0.3331	5.8743	
Nickel (Ni)	0.8460	0.0584	0.997
Zinc (Zn)	0.9094	0.6235	0.986

(3) Selected values of calculated acute and chronic criteria (µg/L).

Hardness as $CaCO_3$, dissolved (mg/L)		Al	Cd	Cr III	Cu	Pb	Mn	Ni	Ag	Zn
25	Acute	512	0.51	180	4	14	1,881	140	0.3	45
	Chronic	205	0.17	24	3	1	1,040	16		34
30	Acute	658	0.59	210	4	17	1,999	170	0.4	54
	Chronic	263	0.19	28	3	1	1,105	19		41
40	Acute	975	0.76	270	6	24	2,200	220	0.7	70
	Chronic	391	0.23	35	4	1	1,216	24		53
50	Acute	1,324	0.91	320	7	30	2,370	260	1.0	85
	Chronic	530	0.28	42	5	1	1,309	29		65
60	Acute	1,699	1.07	370	8	37	2,519	300	1.3	101
	Chronic	681	0.31	49	6	1	1,391	34		76
70	Acute	2,099	1.22	430	10	44	2,651	350	1.7	116
	Chronic	841	0.35	55	7	2	1,465	38		88
80	Acute	2,520	1.37	470	11	51	2,772	390	2.2	131
	Chronic	1,010	0.39	62	7	2	1,531	43		99
90	Acute	2,961	1.51	520	12	58	2,883	430	2.7	145
	Chronic	1,186	0.42	68	8	2	1,593	48		110
100	Acute	3,421	1.65	570	13	65	2,986	470	3.2	160
	Chronic	1,370	0.45	74	9	3	1,650	52		121
200	Acute	8,838	2.98	1,010	26	140	3,761	840	11	301
	Chronic	3,541	0.75	130	16	5	2,078	90		228
220	Acute	10,071	3.23	1,087	28	151	3,882	912	13	328
	Chronic	4,035	0.80	141	18	6	2,145	101		248
300	Acute	~~10,071~~	4.21	1,400	38	210	4,305	1190	21	435
	Chronic	~~4,035~~	1.00	180	23	8	2,379	130		329
400 and above	Acute	~~10,071~~	5.38	1,770	50	280	4,738	1510	35	564
	Chronic	~~4,035~~	1.22	230	29	11	2,618	170		428

BASIS FOR CHANGE: The table in Subsection I, Subparagraph (3) of 20.6.4.900 (above) is revised to add the subscript '3' to the chemical nomenclature for hardness, and to include the missing calculated values for metals at hardness of 220 mg/L $CaCO_3$. Also, in accordance with Subsection I of 20.6.4.900, the hardness equations for aluminum are valid up to dissolved hardness (as mg $CaCO_3$/L) of 220 mg/L. Therefore, the calculated values for aluminum criteria at dissolved hardness above 220 mg/L are deleted from the table.

J. Use-Specific Numeric criteria.

~~**(1)** Notes applicable to the table of numeric criteria in Paragraph (2) of this subsection.~~

~~**(a)** Where the letter "a" is indicated in a cell, the criterion is hardness-based and can be referenced in Subsection I of 20.6.4.900 NMAC.~~

~~**(b)** Where the letter "b" is indicated in a cell, the criterion can be referenced in Subsection C of 20.6.4.900 NMAC.~~

~~**(c)** Criteria are in µg/L unless otherwise indicated.~~

~~**(d)** Abbreviations are as follows: CAS - chemical abstracts service (see definition for "CAS number" in 20.6.4.7 NMAC); DWS - domestic water supply; Irr - irrigation; LW - livestock watering; WH - wildlife habitat; HH-OO - human health-organism only; C - cancer-causing; P - persistent.~~

~~**(e)** The criteria are based on analysis of an unfiltered sample unless otherwise indicated. The acute and chronic aquatic life criteria for aluminum are based on analysis of total recoverable aluminum in a sample that is filtered to minimize mineral phases as specified by the department.~~ For aluminum, where the pH is 6.5 or less in the receiving water after mixing, the acute and chronic dissolved criteria in the table will apply.~~

~~**(f)** The criteria listed under human health-organism only (HH-OO) are intended to protect human health when aquatic organisms are consumed from waters containing pollutants. These criteria do not protect the aquatic life itself; rather, they protect the health of humans who ingest fish or other aquatic organisms.~~

~~**(g)** The dioxin criteria apply to the sum of the dioxin toxicity equivalents expressed as 2,3,7,8-TCDD dioxin.~~

~~**(h)** The criteria for polychlorinated biphenyls (PCBs) applies to the sum of all congeners, to the sum of all homologs or to the sum of all aroclors.~~

BASIS FOR CHANGE: The order of Subsection J, subparagraphs J(1) and J(2) are transposed so the table precedes the explanatory notes.

(~~2~~1) Table of Numeric Criteria: The following table sets forth the numeric criteria applicable to existing, designated and attainable uses. For metals, criteria represent the total sample fraction unless otherwise specified in the table. Additional criteria that are not compatible with this table are found in Subsections A through I, K and L of this section.

BASIS FOR CHANGES: As noted in the previous section, the order of Subsection J, subparagraphs J(1) and J(2) are transposed so the table of numeric criteria precedes the explanatory notes. Language is added to the new section Subsection J, Subparagraph (1) of 20.6.4.900 (above) to clarify that criteria for metals are based on the total sample fraction unless otherwise specified (e.g., dissolved). Consistent with the definitions in Subsection I, subparagraph (I)(5) in 20.6.4.7 NMAC, the irrigation storage designated use (e.g., Irr Storage) is added to the table column headings below. Also, a hyphen is added to the Chemical Abstracts Service registry number (CAS number) for Bis(2-ethylhexyl) phthalate to correct a typographical error in the table below.

Pollutant	CAS Number	DWS	Irr/Irr Storage	LW	WH	Aquatic Life			Type
						Acute	Chronic	HH-OO	
Aluminum, dissolved	7429-90-5		5,000						
Aluminum, total recoverable	7429-90-5					a	a		
Antimony, dissolved	7440-36-0	6						640	P
Arsenic, dissolved	7440-38-2	10	100	200		340	150	9.0	C,P
Asbestos	1332-21-4	7,000,000 fibers/L							
Barium, dissolved	7440-39-3	2,000							
Beryllium, dissolved	7440-41-7	4							
Boron, dissolved	7440-42-8		750	5,000					
Cadmium, dissolved	7440-43-9	5	10	50		a	a		
Chlorine residual	7782-50-5				11	19	11		
Chromium III, dissolved	16065-83-1					a	a		
Chromium VI, dissolved	18540-29-9					16	11		
Chromium, dissolved	7440-47-3	100	100	1,000					
Cobalt, dissolved	7440-48-4		50	1,000					
Copper, dissolved	7440-50-8	1300	200	500		a	a		
Cyanide, total recoverable	57-12-5	200			5.2	22.0	5.2	140	
Lead, dissolved	7439-92-1	15	5,000	100		a	a		
Manganese, dissolved	7439-96-5					a	a		
Mercury	7439-97-6	2		10	0.77				
Mercury, dissolved	7439-97-6					1.4	0.77		
Methylmercury	22967-92-6							0.3 mg/kg in fish tissue	P
Molybdenum, dissolved	7439-98-7		1,000						
Molybdenum, total recoverable	7439-98-7					7,920	1,895		
Nickel, dissolved	7440-02-0	700				a	a	4,600	P
Nitrate as N		10 mg/L							
Nitrite + Nitrate				132 mg/L					
Selenium, dissolved	7782-49-2	50	b	50				4,200	P

Pollutant	CAS Number	DWS	Irr/Irr Storage	LW	WH	Aquatic Life			Type
						Acute	Chronic	HH-OO	
Selenium, total recoverable	7782-49-2				5.0	20.0	5.0		
Silver, dissolved	7440-22-4					a			
Thallium, dissolved	7440-28-0	2						0.47	P
Uranium, dissolved	7440-61-1	30							
Vanadium, dissolved	7440-62-2		100	100					
Zinc, dissolved	7440-66-6	10,500	2,000	25,000		a	a	26,000	P
Adjusted gross alpha		15 pCi/L		15 pCi/L					
Radium 226 + Radium 228		5 pCi/L		30.0 pCi/L					
Strontium 90		8 pCi/L							
Tritium		20,000 pCi/L		20,000 pCi/L					
Acenaphthene	83-32-9	2,100						990	
Acrolein	107-02-8	18						9	
Acrylonitrile	107-13-1	0.65						2.5	C
Aldrin	309-00-2	0.021				3.0		0.00050	C,P
Anthracene	120-12-7	10,500						40,000	
Benzene	71-43-2	5						510	C
Benzidine	92-87-5	0.0015						0.0020	C
Benzoaanthracene	56-55-3	0.048						0.18	C
Benzoapyrene	50-32-8	0.2						0.18	C,P
Benzo(b)fluoranthene	205-99-2	0.048						0.18	C
Benzo(k)fluoranthene	207-08-9	0.048						0.18	C
alpha-BHC	319-84-6	0.056						0.049	C
beta-BHC	319-85-7	0.091						0.17	C
Gamma-BHC (Lindane)	58-89-9	0.20				0.95		1.8	
Bis(2-chloroethyl) ether	111-44-4	0.30						5.3	C
Bis(2-chloroisopropyl) ether	108-60-1	1,400						65,000	
Bis(2-ethylhexyl) phthalate	117-81-7	6						22	C
Bromoform	75-25-2	44						1,400	C

Pollutant	CAS Number	DWS	Irr/Irr Storage	LW	WH	Aquatic Life			Type
						Acute	Chronic	HH-OO	
Butylbenzyl phthalate	85-68-7	7,000						1,900	
Carbon tetrachloride	56-23-5	5						16	C
Chlordane	57-74-9	2				2.4	0.0043	0.0081	C,P
Chlorobenzene	108-90-7	100						1,600	
Chlorodibromomethane	124-48-1	4.2						130	C
Chloroform	67-66-3	57						4,700	C
2-Chloronaphthalene	91-58-7	2,800						1,600	
2-Chlorophenol	95-57-8	175						150	
Chrysene	218-01-9	0.048						0.18	C
Diazinon	333-41-5					0.17	0.17		
4,4'-DDT and derivatives		1.0			0.001	1.1	0.001	0.0022	C,P
Dibenzo(a,h)anthracene	53-70-3	0.048						0.18	C
Dibutyl phthalate	84-74-2	3,500						4,500	
1,2-Dichlorobenzene	95-50-1	600						1,300	
1,3-Dichlorobenzene	541-73-1	469						960	
1,4-Dichlorobenzene	106-46-7	75						190	
3,3'-Dichlorobenzidine	91-94-1	0.78						0.28	C
Dichlorobromomethane	75-27-4	5.6						170	C
1,2-Dichloroethane	107-06-2	5						370	C
1,1-Dichloroethylene	75-35-4	7						7,100	C
2,4-Dichlorophenol	120-83-2	105						290	
1,2-Dichloropropane	78-87-5	5.0						150	C
1,3-Dichloropropene	542-75-6	3.5						210	C
Dieldrin	60-57-1	0.022				0.24	0.056	0.00054	C,P
Diethyl phthalate	84-66-2	28,000						44,000	
Dimethyl phthalate	131-11-3	350,000						1,100,000	
2,4-Dimethylphenol	105-67-9	700						850	
2,4-Dinitrophenol	51-28-5	70						5,300	
2,4-Dinitrotoluene	121-14-2	1.1						34	C
Dioxin		3.0E-05						5.1E-08	C,P
1,2-Diphenylhydrazine	122-66-7	0.44						2.0	C
alpha-Endosulfan	959-98-8	62				0.22	0.056	89	

Pollutant	CAS Number	DWS	Irr/Irr Storage	LW	WH	Aquatic Life			Type
						Acute	Chronic	HH-OO	
beta-Endosulfan	33213-65-9	62				0.22	0.056	89	
Endosulfan sulfate	1031-07-8	62						89	
Endrin	72-20-8	2				0.086	0.036	0.060	
Endrin aldehyde	7421-93-4	10.5						0.30	
Ethylbenzene	100-41-4	700						2,100	
Fluoranthene	206-44-0	1,400						140	
Fluorene	86-73-7	1,400						5,300	
Heptachlor	76-44-8	0.40				0.52	0.0038	0.00079	C
Heptachlor epoxide	1024-57-3	0.20				0.52	0.0038	0.00039	C
Hexachlorobenzene	118-74-1	1						0.0029	C,P
Hexachlorobutadiene	87-68-3	4.5						180	C
Hexachlorocyclopen-tadiene	77-47-4	50						1,100	
Hexachloroethane	67-72-1	25						33	C
Ideno(1,2,3-cd)pyrene	193-39-5	0.048						0.18	C
Isophorone	78-59-1	368						9,600	C
Methyl bromide	74-83-9	49						1,500	
2-Methyl-4,6-dinitrophenol	534-52-1	14						280	
Methylene chloride	75-09-2	5						5,900	C
Nitrobenzene	98-95-3	18						690	
N-Nitrosodimethylamine	62-75-9	0.0069						30	C
N-Nitrosodi-n-propylamine	621-64-7	0.050						5.1	C
N-Nitrosodiphenylamine	86-30-6	71						60	C
Nonylphenol	84852-15-3					28	6.6		
Polychlorinated Byphenyls (PCBs)	1336-36-3	0.50			0.014	2	0.014	0.00064	C,P
Pentachlorophenol	87-86-5	1.0				19	15	30	C
Phenol	108-95-2	10,500						860,000	
Pyrene	129-00-0	1,050						4,000	
1,1,2,2-Tetrachloroethane	79-34-5	1.8						40	C
Tetrachloroethylene	127-18-4	5						33	C,P

Pollutant	CAS Number	DWS	Irr/Irr Storage	LW	WH	Aquatic Life			Type
						Acute	Chronic	HH-OO	
Toluene	108-88-3	1,000						15,000	
Toxaphene	8001-35-2	3				0.73	0.0002	0.0028	C
1,2-Trans-dichloroethylene	156-60-5	100						10,000	
1,2,4-Trichlorobenzene	120-82-1	70						70	
1,1,1-Trichloroethane	71-55-6	200							
1,1,2-Trichloroethane	79-00-5	5						160	C
Trichloroethylene	79-01-6	5						300	C
2,4,6-Trichlorophenol	88-06-2	32						24	C
Vinyl chloride	75-01-4	2						24	C

(12) Notes applicable to the table of numeric criteria in Paragraph (21) of this subsection.

(a) Where the letter "a" is indicated in a cell, the criterion is hardness-based and can be referenced in Subsection I of 20.6.4.900 NMAC.

(b) Where the letter "b" is indicated in a cell, the criterion can be referenced in Subsection C of 20.6.4.900 NMAC.

(c) Criteria are in µg/L unless otherwise indicated.

(d) Abbreviations are as follows: CAS - chemical abstracts service (see definition for "CAS number" in 20.6.4.7 NMAC); DWS - domestic water supply; Irr/Irr Storage-irrigation or irrigation storage; LW - livestock watering; WH - wildlife habitat; HH-OO - human health-organism only; C - cancer-causing; P - persistent.

(e) The criteria are based on analysis of an unfiltered sample unless otherwise indicated. The acute and chronic aquatic life criteria for aluminum are based on analysis of total recoverable aluminum in a sample that is filtered to minimize mineral phases as specified by the department.

(f) The criteria listed under human health-organism only (HH-OO) are intended to protect human health when aquatic organisms are consumed from waters containing pollutants. These criteria do not protect the aquatic life itself; rather, they protect the health of humans who ingest fish or other aquatic organisms.

(g) The dioxin criteria apply to the sum of the dioxin toxicity equivalents expressed as 2,3,7,8-TCDD dioxin.

(h) The criteria for polychlorinated biphenyls (PCBs) applies to the sum of all congeners, to the sum of all homologs or to the sum of all aroclors.

BASIS FOR CHANGE: For clarity, the order of Subsection J, subparagraphs J(1) and J(2) are transposed so the explanatory notes in new Subsection J, Subparagraph (2) of 20.6.4.900 (above) follow the table.

K. Acute aquatic life criteria for total ammonia are dependent on pH and the presence or absence of salmonids. The criteria in mg/L as N based on analysis of unfiltered samples are as follows:

pH	Where Salmonids Present	Where Salmonids Absent
6.5 and below	32.6	48.8
6.6	31.3	46.8
6.7	29.8	44.6
6.8	28.1	42.0
6.9	26.2	39.1
7.0	24.1	36.1
7.1	22.0	32.8
7.2	19.7	29.5
7.3	17.5	26.2
7.4	15.4	23.0
7.5	13.3	19.9
7.6	11.4	17.0
7.7	9.65	14.4
7.8	8.11	12.1
7.9	6.77	10.1
8.0	5.62	8.40
8.1	4.64	6.95
8.2	3.83	5.72
8.3	3.15	4.71
8.4	2.59	3.88
8.5	2.14	3.20
8.6	1.77	2.65
8.7	1.47	2.20
8.8	1.23	1.84
8.9	1.04	1.56
9.0 and above	0.885	1.32

L. Chronic aquatic life criteria for total ammonia are dependent on pH, temperature and whether fish in early life stages are present or absent. The criteria are based on analysis of unfiltered samples and are calculated according to the equations in Paragraphs (1) and (2) of this subsection. For temperatures <u>from</u> below 0 to <u>14</u>°C, the criteria for ~~0~~<u>14</u>°C apply; for temperatures above 30°C, the criteria for 30°C apply. For pH values below 6.5, the criteria for 6.5 apply; for pH values above 9.0, the criteria for 9.0 apply.

BASIS FOR CHANGE: The first column in the table below in Subsection L, Subparagraph L (1) (b) NMAC is redundant and proposed to be deleted; therefore, underlined additions in the

text above are proposed to correspond to these changes.

(1) Chronic aquatic life criteria for total ammonia when fish early life stages are present.

(a) The equation to calculate chronic criteria in mg/L as N is:

$$((0.0577/(1 + 10^{7.688-pH})) + (2.487/(1 + 10^{pH-7.688}))) \times MIN\ (2.85, 1.45 \times 10^{0.028 \times (25-T)})$$

(b) Selected values of calculated chronic criteria in mg/L as N:

pH	Temperature (°C)										
	~~0 and below~~	14 and below	15	16	18	20	22	24	26	28	30 and above
6.5 and below	~~6.67~~	6.67	6.46	6.06	5.33	4.68	4.12	3.62	3.18	2.80	2.46
6.6	~~6.57~~	6.57	6.36	5.97	5.25	4.61	4.05	3.56	3.13	2.75	2.42
6.7	~~6.44~~	6.44	6.25	5.86	5.15	4.52	3.98	3.50	3.07	2.70	2.37
6.8	~~6.29~~	6.29	6.10	5.72	5.03	4.42	3.89	3.42	3.00	2.64	2.32
6.9	~~6.12~~	6.12	5.93	5.56	4.89	4.30	3.78	3.32	2.92	2.57	2.25
7.0	~~5.91~~	5.91	5.73	5.37	4.72	4.15	3.65	3.21	2.82	2.48	2.18
7.1	~~5.67~~	5.67	5.49	5.15	4.53	3.98	3.50	3.08	2.70	2.38	2.09
7.2	~~5.39~~	5.39	5.22	4.90	4.31	3.78	3.33	2.92	2.57	2.26	1.99
7.3	~~5.08~~	5.08	4.92	4.61	4.06	3.57	3.13	2.76	2.42	2.13	1.87
7.4	~~4.73~~	4.73	4.59	4.30	3.78	3.32	2.92	2.57	2.26	1.98	1.74
7.5	~~4.36~~	4.36	4.23	3.97	3.49	3.06	2.69	2.37	2.08	1.83	1.61
7.6	~~3.98~~	3.98	3.85	3.61	3.18	2.79	2.45	2.16	1.90	1.67	1.47
7.7	~~3.58~~	3.58	3.47	3.25	2.86	2.51	2.21	1.94	1.71	1.50	1.32
7.8	~~3.18~~	3.18	3.09	2.89	2.54	2.23	1.96	1.73	1.52	1.33	1.17
7.9	~~2.80~~	2.80	2.71	2.54	2.24	1.96	1.73	1.52	1.33	1.17	1.03
8.0	~~2.43~~	2.43	2.36	2.21	1.94	1.71	1.50	1.32	1.16	1.02	0.897
8.1	~~2.10~~	2.10	2.03	1.91	1.68	1.47	1.29	1.14	1.00	0.879	0.773
8.2	~~1.79~~	1.79	1.74	1.63	1.43	1.26	1.11	0.973	0.855	0.752	0.661
8.3	~~1.52~~	1.52	1.48	1.39	1.22	1.07	0.941	0.827	0.727	0.639	0.562
8.4	~~1.29~~	1.29	1.25	1.17	1.03	0.906	0.796	0.700	0.615	0.541	0.475
8.5	~~1.09~~	1.09	1.06	0.990	0.870	0.765	0.672	0.591	0.520	0.457	0.401
8.6	~~0.920~~	0.920	0.892	0.836	0.735	0.646	0.568	0.499	0.439	0.386	0.339
8.7	~~0.778~~	0.778	0.754	0.707	0.622	0.547	0.480	0.422	0.371	0.326	0.287
8.8	~~0.661~~	0.661	0.641	0.601	0.528	0.464	0.408	0.359	0.315	0.277	0.244
8.9	~~0.565~~	0.565	0.548	0.513	0.451	0.397	0.349	0.306	0.269	0.237	0.208
9.0 and above	~~0.486~~	0.486	0.471	0.442	0.389	0.342	0.300	0.264	0.232	0.204	0.179

BASIS FOR CHANGE: The first column in the table above in Subsection L, Subparagraph L (1) (b) NMAC is redundant and proposed to be deleted; therefore, underlined additions in the

table above are proposed to correspond to these changes.

(2) Chronic aquatic life criteria for total ammonia when fish early life stages are absent.

(a) The equation to calculate chronic criteria in mg/L as N is:

$$((0.0577/(1 + 10^{7.688-pH})) + (2.487/(1 + 10^{pH-7.688}))) \times 1.45 \times 10^{0.028 \times (25-MAX(T,7))}$$

(b) Selected values of calculated chronic criteria in mg/L as N:

pH	Temperature (°C)									
	~~7 and below~~	7 and below	8	9	10	11	12	13	14	15 and above
6.5 and below	~~10.8~~	10.8	10.1	9.51	8.92	8.36	7.84	7.35	6.89	6.46
6.6	~~10.7~~	10.7	9.99	9.37	8.79	8.24	7.72	7.24	6.79	6.36
6.7	~~10.5~~	10.5	9.81	9.20	8.62	8.08	7.58	7.11	6.66	6.25
6.8	~~10.2~~	10.2	9.58	8.98	8.42	7.90	7.40	6.94	6.51	6.10
6.9	~~9.93~~	9.93	9.31	8.73	8.19	7.68	7.20	6.75	6.33	5.93
7.0	~~9.60~~	9.60	9.00	8.43	7.91	7.41	6.95	6.52	6.11	5.73
7.1	~~9.20~~	9.20	8.63	8.09	7.58	7.11	6.67	6.25	5.86	5.49
7.2	~~8.75~~	8.75	8.20	7.69	7.21	6.76	6.34	5.94	5.57	5.22
7.3	~~8.24~~	8.24	7.73	7.25	6.79	6.37	5.97	5.60	5.25	4.92
7.4	~~7.69~~	7.69	7.21	6.76	6.33	5.94	5.57	5.22	4.89	4.59
7.5	~~7.09~~	7.09	6.64	6.23	5.84	5.48	5.13	4.81	4.51	4.23
7.6	~~6.46~~	6.46	6.05	5.67	5.32	4.99	4.68	4.38	4.11	3.85
7.7	~~5.81~~	5.81	5.45	5.11	4.79	4.49	4.21	3.95	3.70	3.47
7.8	~~5.17~~	5.17	4.84	4.54	4.26	3.99	3.74	3.51	3.29	3.09
7.9	~~4.54~~	4.54	4.26	3.99	3.74	3.51	3.29	3.09	2.89	2.71
8.0	~~3.95~~	3.95	3.70	3.47	3.26	3.05	2.86	2.68	2.52	2.36
8.1	~~3.41~~	3.41	3.19	2.99	2.81	2.63	2.47	2.31	2.17	2.03
8.2	~~2.91~~	2.91	2.73	2.56	2.40	2.25	2.11	1.98	1.85	1.74
8.3	~~2.47~~	2.47	2.32	2.18	2.04	1.91	1.79	1.68	1.58	1.48
8.4	~~2.09~~	2.09	1.96	1.84	1.73	1.62	1.52	1.42	1.33	1.25
8.5	~~1.77~~	1.77	1.66	1.55	1.46	1.37	1.28	1.20	1.13	1.06
8.6	~~1.49~~	1.49	1.40	1.31	1.23	1.15	1.08	1.01	0.951	0.892
8.7	~~1.26~~	1.26	1.18	1.11	1.04	0.976	0.915	0.858	0.805	0.754
8.8	~~1.07~~	1.07	1.01	0.944	0.855	0.829	0.778	0.729	0.684	0.641
8.9	~~0.917~~	0.917	0.860	0.806	0.756	0.709	0.664	0.623	0.584	0.548
9.0 and above	~~0.790~~	0.790	0.740	0.694	0.651	0.610	0.572	0.536	0.503	0.471
At 15º C and above, the criterion for fish early life stages absent is the same as the criterion for fish early life stages present (refer to table in Paragraph (1) of this subsection).										

[20.6.4.900 NMAC - Rp 20 NMAC 6.1.3100, 10-12-00; A, 10-11-02; A, 05-23-05; A, 07-17-05; A, 12-01-10; A, XX-XX-XX]

BASIS FOR CHANGE: The first column in the table above in Subsection L, Subparagraph L (2) (b) NMAC is redundant and proposed to be deleted; therefore, underlined additions in the table above are proposed to correspond to these changes.

20.6.4.901 PUBLICATION REFERENCES: These documents are intended as guidance and are available for public review during regular business hours at the offices of the surface water quality bureau. Copies of these documents have also been filed with the New Mexico state records center in order to provide greater access to this information.

A. American public health association. 1992. *Standard methods for the examination of water and wastewater, 18th Edition.* Washington, D.C. 1048 p.

B. American public health association. 1995. *Standard methods for the examination of water and wastewater, 19th Edition.* Washington, D.C. 1090 p.

C. American public health association. 1998. *Standard methods for the examination of water and wastewater, 20th Edition.* Washington, D.C. 1112 p.

D. United States geological survey. 1987. *Methods for determination of inorganic substances in water and fluvial sediments, techniques of water-resource investigations of the United States geological survey.* Washington, D.C. 80 p.

E. United States geological survey. 1987. *Methods for the determination of organic substances in water and fluvial sediments, techniques of water-resource investigations of the U.S. geological survey.* Washington, D.C. 80 p.

F. United States environmental protection agency. 1974. *Methods for chemical analysis of water and wastes.* National environmental research center, Cincinnati, Ohio. (EPA-625-/6-74-003). 298 p.

G. New Mexico water quality control commission. 2003. *(208) state of New Mexico water quality management plan*. Santa Fe, New Mexico. 85 p.

H. Colorado river basin salinity control forum. 20~~02~~11. *20~~02~~*11 *Review, water quality standards for salinity, Colorado river system.* Phoenix, Arizona. 99 p.

I. United States environmental protection agency. 2002. *Methods for measuring the acute toxicity of effluents and receiving waters to freshwater and marine organisms.* Office of research and development, Washington, D.C. (5th Ed., EPA 821-R-02-012). 293 p. http://www.epa.gov/ostWET/disk2/atx.pdf

J. United States environmental protection agency. 2002. *Short-term methods for estimating the chronic toxicity of effluents and receiving waters to freshwater organisms.* Environmental monitoring systems laboratory, Cincinnati, Ohio. ([4th Ed., EPA 821-R-02-01). 335 p.

K. Ambient-induced mixing, in United States environmental protection agency. 1991. *Technical support document for water quality-based toxics control*. Office of water, Washington, D.C. (EPA/505/2-90-001). 2 p.

L. United States environmental protection agency. 1983. *Technical support manual: waterbody surveys and assessments for conducting use attainability analyses*. Office of water, regulations and standards, Washington, D.C. 251 p. http://www.epa.gov/OST/library/wqstandards/uaavol123.pdf

M. United States environmental protection agency. 1984. *Technical support manual: waterbody surveys and assessments for conducting use attainability analyses, volume III: lake systems*. Office of water, regulations and standards, Washington, D.C. 208 p. http://www.epa.gov/OST/library/wqstandards/uaavol123.pdf

[20.6.4.901 NMAC - Rp 20 NMAC 6.1.4000, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

BASIS FOR CHANGE: The reference in Subsection H of 20.6.4.901 is updated to the most recent version (the basin report is updated on a triennial basis).

HISTORY of 20.6.4 NMAC:
Pre-NMAC History:
Material in the part was derived from that previously filed with the commission of public records - state records center and archives:
WQC 67-1, Water Quality Standards, filed 7-17-67, effective 8-18-67
WQC 67-1, Amendment Nos. 1-6, filed 3-21-68, effective 4-22-68
WQC 67-1, Amendment No. 7, filed 2-27-69, effective 3-30-69
WQC 67-1, Amendment No. 8, filed 7-14-69, effective 8-15-69
WQC 70-1, Water Quality Standards for Intrastate Waters and Tributaries to Interstate Streams, filed July 17, 1970;
WQC 67-1, Amendment Nos. 9 and 10, filed 2-12-71, effective 3-15-71
WQC 67-1, Amendment No. 11, filed 3-4-71, effective 4-5-71
WQC 73-1, New Mexico Water Quality Standards, filed 9-17-73, effective 10-23-73
WQC 73-1, Amendment Nos. 1 and 2, filed 10-3-75, effective 11-4-75
WQC 73-1, Amendment No. 3, filed 1-19-76, effective 2-14-76
WQC 77-2, Amended Water Quality Standards for Interstate and Intrastate Streams in New Mexico, filed 2-24-77, effective 3-11-77
WQC 77-2, Amendment No. 1, filed 3-23-78, effective 4-24-78
WQC 77-2, Amendment No. 2, filed 6-12-79, effective 7-13-79
WQCC 80-1, Water Quality Standards for Interstate and Intrastate Streams in New Mexico, filed 8-28-80, effective 9-28-80
WQCC 81-1, Water Quality Standards for Interstate and Intrastate Streams in New Mexico, filed 5-5-81, effective 6-4-81
WQCC 81-1, Amendment No. 1, filed 5-19-82, effective 6-18-82
WQCC 81-1, Amendment No. 2, filed 6-24-82, effective 7-26-82
WQCC 85-1, Water Quality Standards for Interstate and Intrastate Streams in New Mexico, filed 1-16-85, effective 2-15-85
WQCC 85-1, Amendment No. 1, filed 8-28-87, effective 9-28-87
WQCC 88-1, Water Quality Standards for Interstate and Intrastate Streams in New Mexico, filed 3-24-88, effective 4-25-88
WQCC 91-1, Water Quality Standards for Interstate and Intrastate Streams in New Mexico, filed 5-29-91, effective 6-29-91
WQCC 91-1, Amendment No. 1, filed 10-11-91, effective 11-12-91

History of the Repealed Material:
WQC 67-1, Water Quality Standards, - Superseded, 10-23-73
WQC 73-1, New Mexico Water Quality Standards, - Superseded, 3-11-77
WQC 77-2, Amended Water Quality Standards for Interstate and Intrastate Streams in New Mexico, - Superseded, 9-28-80

WQCC 80-1, Water Quality Standards for Interstate and Intrastate Streams in New Mexico, - Superseded, 6-4-81
WQCC 81-1, Water Quality Standards for Interstate and Intrastate Streams in New Mexico, - Superseded, 2-15-85
WQCC 85-1, Water Quality Standards for Interstate and Intrastate Streams in New Mexico, - Superseded, 4-25-88
WQCC 88-1, Water Quality Standards for Interstate and Intrastate Streams in New Mexico, - Superseded, 6-29-91
WQCC 91-1, Water Quality Standards for Interstate and Intrastate Streams in New Mexico, - Superseded, 1-23-95
20 NMAC 6.1, Standards for Interstate and Intrastate Streams, - Repealed, 2-23-00
20 NMAC 6.1, Standards for Interstate and Intrastate Surface Waters, - Repealed, 10-12-00

Attachments

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Director
Resource Protection Division

MEMORANDUM

TO: **Kris Pintado, Standards, Planning and Reporting Team Leader**

FROM: **Jodey Kougioulis, Quality Assurance Officer**

DATE: **February 26, 2014**

SUBJECT: **Triennial Review – Most probable number (MPN)/colony forming units (cfu) enumeration methods and proposed standards reporting revision**

Introduction and Purpose

The purpose of this memo is to address EPA's and SWQB staff comments and suggestions regarding the reporting of bacterial concentrations as MPN and to propose suggested revisions to the state's current reporting language for bacteria criteria which are expressed as colony forming units (cfu) per 100 ml. Currently, the SWQB reports bacteria data as most probable number (MPN) based on the use of IDEXX *Quanti-Tray* (QT) method which is an extended version of the IDEXX Colilert test. MPN and cfu represent different enumeration methods and result in different method specific units, but for purposes of reporting, EPA has used these terms interchangeably. EPA has approved methods for enumeration and allows reporting in either cfu or MPN in federal rule for ambient water (40 CFR, 2003) and for wastewater and sludge (40 CFR, 2007).

Background and General Description of MPN and cfu.

The MPN is a statistical estimate of the number of bacteria that, more probable than any other number, would give the observed result; it is not an actual count of the bacteria present. Membrane filtration (MF) methods which produce results expressed as cfu are culture-based and results are quantified by counting the number of colonies that arise from bacteria captured on the membrane filter per volume of water filtered. Although expressed as an actual count of the bacterial colony forming units, the number is still considered an estimate because colonies can be produced by one or several cells that can clump together in the sample. MPN methods are also culture-based with a defined substrate which produces an estimate number (density) of organisms based on the combination of positive and negative test tube results that can be read from a statistical probability MPN table.

Proposal

The SWQB currently uses an approved EPA method for sampling and analyzing bacteria levels in its ambient water quality monitoring program and reports these results in MPN.The water quality standards for bacteria criteria are proposed to be revised to reflect SWQB's current reporting practices and EPA's approved use of either membrane filtration methods, reported as cfu, or MPN methods, reported as MPN for enumeration of bacteria in ambient water and effluent. This change, if adopted, wouldallow results to be reported in either cfu or MPN, depending on the analytical method. The most appropriate place to do this may be in 20.6.4.900.D and E of NMAC by adding language similar to the following: "Water quality standards for E. coli are expressed in colony forming units per 100 milliliters of water (cfu / 100 ml) or as a Most Probable Number (MPN)"

Related Research

There have been numerous published papers that address the similarities or differences between enumeration results obtained by cfu methods and those obtained by MPN methods. Much of the earlier research concluded that *"there was no significant difference for the enumeration of E. coli between the QT and MF methods" (Rompré et al., 2002).*

More recently published research by Wohlsen et al. (2006) does show a significant difference between the two enumeration methods when using a standard reference inoculum. The use and calibration of a standard reference inoculum of only viable cells still needs to be related to original criteria development which was based on a combination of frequency, magnitude, and duration of exposure to ambient recreational waters, bacterial densities as enumerated by MF, and selected illness rates in response. As stated earlier, this is primarily a reporting revision to acknowledge the programmatic reality that both MPN and cfu can be reported and used to assess against the water quality standard.

Staff and EPA Comments, Suggestions, and Initial Review of Bacteria Criteria Reporting

Responses to both the EPA, SWQB staff, and the proposal justification will need to be clearly communicated in a consistent and coordinated fashion. The need to remain consistent with existing water quality standard language, definitions, and format may limit the expanse of revised language but ultimately the simple proposed revision will communicate the available reporting options for bacteria criteria. Comments from SWQB staff largely focused on the fact that MPN and cfu are enumerated and expressed differently with method specific units and that clear definitions are needed to describe this difference. EPA's comments and suggestion are largely in concert with the proposed revision and the suggested language will provide the clarity needed for criteria interpretation.

SWQB Staff

1): I have come across several scholarly articles that attempt to correlate MPN to cfu. They are not the same; cfu represents an absolute number of units, whereas MPN represents a theoretical value (often considered the maximum value).

Response: *EPA permits staff and SWQB staff raised issues about the enumeration of bacteria - most probable number (MPN) and colony forming units (*cfu*) - relative to implementation and assessment of the WQS. The traditional plate tests, including membrane filtration, estimate or count 'colonies' of bacteria reported as* cfu. *These provide a direct count of an indicator organism (E. coli) in ambient water or wastewater based on the development of colonies in/on media and a calculation is still performed. While microscopic counts may be more accurate, it's costly and time consuming, and there's still the problem of what's viable or not. Very few tests are conducted to determine live and dead colonies; in summary exact counts are generally not feasible to obtain. Newer tests such as Colilert (which is used by SWQWB for assessment and monitoring) report data as MPN which is a statistical representation of what level of E. coli is likely present in a sample. While MPN and* cfu *may not be entirely equivalent, for the purposes of reporting, these terms are currently used interchangeably by the EPA. EPA has approved these methods for enumeration in federal rule for ambient water (40 CFR, 2003) and for wastewater and sludge (40 CFR, 2007). The currently recommended EPA recreational or bacteria criteria for E. coli are expressed as cfu/100 ml measured using EPA Method 1603 or any other equivalent method that measures culturable E. coli. Therefore, the water quality standards are under deliberation to be revised to reflect the use of updated methods for monitoring, assessment and reporting. After much consideration, the most appropriate place to do this may be in 20.6.4.900.D and E of NMAC by adding language similar to the following:*

"Water quality standards for E. coli are expressed in colony forming units per 100 milliliters of water (cfu / 100 ml) or as a Most Probable Number (MPN)"

References for EPA Method 1603 and EPA's final rules establishing alternate test procedures could also be included in 20.6.4.901 NMAC as references.

Abbreviations for both cfu *and MPN are suggested to be included in the WQS definitions.*

2) Similar to the cfu/100mL definition, do we need to make reference to cfu/100mL in the MPN definition? Add the term "most probable number" (under terms beginning with the letter 'M').

Response: *Generally, the definitions seem to stand on their own, e.g., there doesn't seem to be any 'cross referencing' in these definitions. Instead of adding a definition for MPN, the abbreviation for MPN is retained in this section. Please also see the previous discussion in response to bacteria enumeration (under 20.6.4.7.A (3)(a) NMAC), and response below.*

"MPN" will be listed under the abbreviations section of the definitions, so it'll be 'defined' in that way. It's also appropriate to add 'MPN' (as an alternate enumeration to cfu) under the criteria section in 20.6.4.900.D and E NMAC (see the new language in that section). As there's not a "full" definition for cfu in the WQS, to be consistent with the rule format, a "full" definition for MPN won't be added. Also, there's really not a concise, easily understood definition for cfu to put into the standards. Both enumeration methods are also fully described in the EPA criteria recommendations and supporting documents, in the methods, and in the scientific literature.

EPA Comments and Suggestions

The Region's concern with the state's current bacteria criteria are related to how the provision reads and its interpretation. The *E. coli* standard that the state uses is expressed as colony forming units (cfu) per 100 ml. In a plain reading, this provision requires a specific test method but does not allow an alternative test. Generally the Region recommends avoiding this type of approach to test methods.

When bacterial Total Maximum Daily Loads (TMDL) are issued, they may specify extremely large numbers of cfu/100 ml as a loading limit. This requires building an equation for calculating the loading limit as expressed in the TMDL into a footnote into NPDES permits. To simplify the process, the Region has consulted with waste water treatment plant operators to determine if the most probable number (MPN) can be used as an equivalent to cfu/100 ml. The general answer is yes, and the Region has been using this approach. NMED inspectors seem to agree with this approach, since they also see the problem in the field. The problem here is that this approach requires the use of a different test method. What the Region suggests is that both the standards and TMDL guidance documents refer to both cfu/100 ml *and* MPN as equivalent, allowing either generally approved test method to be used to account the level of indicator bacteria in permits.

Response: *EPA Region 6 has suggested that the water quality standards and the state's TMDL guidance refer to both colony forming units (*cfu*) and most probable number (MPN), as EPA has approved the use of test methods with results that are expressed in either cfu or MPN. The use of more cost-effective and time efficient methods in which counts are expressed as MPN was approved by EPA as equivalent for testing ambient waters in 2003[1], and for wastewater and sewage sludge in 2007[2]. The SWQB is currently using an approved EPA method for sampling and analyzing bacteria levels in ambient water and reporting results in MPN. The currently recommended EPA recreational or bacteria criteria for E. coli are expressed as* cfu*/100 ml measured using EPA Method 1603 or any other equivalent method that measures culturable E. coli [3],[4]. Therefore, the water quality standards are proposed to be revised to reflect the use of updated methods for monitoring, assessment and reporting. References for EPA Method 1603 and EPA's final rules establishing alternate test procedures will also be included in 20.6.4.901 NMAC as references.*

Footnotes

1. *U.S. Federal Register* - 40 CFR Part 136 Vol. 68, No. 139; July 21, 2003.
2. *U.S. Federal Register* - 40 CFR Parts 136 and 503, Vol. 72, No. 157; March 26, 2007.
3. EPA, 2012:
http://water.epa.gov/scitech/swguidance/standards/criteria/health/recreation/upload/factsheet2012.pdf
4. USEPA. 2002. Method 1603: *Escherichia coli* (*E. coli*) In Water By Membrane Filtration Using Modified membrane-Thermotolerant *Escherichia coli* Agar (modified mTEC). U.S. Environmental Protection Agency, Office of Water, Washington D.C. EPA–821–R–02–023

References

Annie Rompre´, Pierre Servais, Julia Baudart, Marie-Rene´e de-Roubin, Patrick Laurent (2002). *Detection and enumeration of coliforms in drinking water: current methods and emerging approaches.* Journal of Microbiological Methods 49 (2002) 31–54

U.S. Federal Register - 40 CFR Part 136 Vol. 68, No. 139; July 21, 2003.

U.S. Federal Register - 40 CFR Parts 136 and 503, Vol. 72, No. 157; March 26, 2007.

USEPA, 2012:
http://water.epa.gov/scitech/swguidance/standards/criteria/health/recreation/upload/factsheet2012.pdf

USEPA. 2002. Method 1603: *Escherichia coli* (*E. coli*) In Water By Membrane Filtration Using Modified membrane-Thermotolerant *Escherichia coli* Agar (modified mTEC). U.S. Environmental Protection Agency, Office of Water, Washington D.C. EPA–821–R–02–023

Wohlsen, T., Bates, J., Vesey, G., Robinson, W.A. and M. Katouli (2006) Evaluation of the methods for enumerating coliform bacteria from water samples using precise reference standards. *Letters in Applied Microbiology* **42**, 350-356.

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To: Kristine Pintado, Water Quality Standards Team Leader
NMED, Surface Water Quality Bureau

From: Michael B. Sloane, Chief, Fisheries Management Division, New Mexico Department of Game and Fish

Subject: Piscicide Provision in 20.6.4.10 NMAC

Date: March 22, 2014

Cc:

Justification for Amending 20.6.4.16 NMAC.

The New Mexico Department of Game and Fish (NMDGF) frequently uses piscicides (fish toxicants) to remove unwanted species from various waters within the State of New Mexico. Various formulations of rotenone are currently registered by the U.S. Environmental protection agency. Historic rotenone use focused on enhancement of sport fisheries primarily in reservoirs with contemporary use limited to native fish restoration efforts. Prior to the late 1990s, the use of a piscicide in waters of New Mexico was unregulated though concerns existed regarding violations of 20.6.4.13 NMAC. The U.S. Environmental Protection Agency consistently held the position that application of a pesticide in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act, including piscicides, was not a point source pollutant (71 Fed. Reg. 68,483) and thus did not require a National Pollutant Discharge Elimination System (NPDES) permit. As a result, 20.6.4.16 NMAC was adopted to provide a process for a piscicide use proponent to obtain approval from the NM Water Quality Control Commission (WQCC) with a mandatory hearing by the WQCC for all planned uses. The WQCC has held approximately seven hearings and repeatedly hears the same testimony with little new information regarding human or environmental health concerns. Consistent expert testimony indicates the products and their use are safe and effective for achieving fishery management and conservation goals in New Mexico.

Planned use of a piscicide in New Mexico requires compliance with a variety of Federal and State laws including the National Environmental Policy Act of 1969 (NEPA), Endangered Species Act of 1974 (ESA), and 20.6.4.16 NMAC Planned Use of a Piscicide. All known piscicide applications to waters of New Mexico have been conducted by either federal and/or state natural resource agencies (e.g. U.S. Forest Service, U.S. Fish and Wildlife Service, or

NMDGF). The NMDGF relies upon federal Sportfish Restoration Act funds to support agency operations. Many waters are located within U.S. Forest Service boundaries or involve threatened or endangered species. As a result, a federal nexus is created which triggers review under NEPA and ESA. Reviews conducted under ESA focus on the effects of the proposed action on threatened and endangered species with review limited to the agency proponent and the U.S. Fish and Wildlife Service. Review under NEPA, however, includes public comment periods, public review of environmental documents, and public involvement in the decision making process. The public involvement process required by NEPA consistently ensures public awareness and participation in project development and implementation similar to the procedures set out in 20.6.4.16 NMAC. In fact, the two are repetitive processes.

The requirement to obtain NPDES permits for point source discharges from pesticide applications to waters of the United States stems from a 2009 decision by the Sixth Circuit Court of Appeals. In its ruling on *National Cotton Council, et al. v. EPA*, the Court vacated the EPA's 2006 rule which said NPDES permits were not required for discharges of pesticides to waters of the United States for applications of pesticides to, or over, including near such waters when in compliance with the existing label (per the Federal Insecticide, Fungicide, and Rodenticide Act, or "FIFRA"). In its ruling, the Sixth Circuit determined that (1) biological pesticides and (2) chemical pesticides that leave a residue are pollutants as defined under the CWA and as such are subject to regulations applicable to pollutants. Courts have previously determined that applications of pesticides, such as from nozzles of planes and trucks, irrigation equipment, etc. are point sources. As a result of the Sixth Circuit's decision, point source discharges to waters of the United States from the application of pesticides require NPDES permits as of October 31, 2011. http://cfpub.epa.gov/npdes/faqs.cfm?program_id=410#476. The U.S. Environmental Protection Agency issued a nationwide Pesticide General Permit to cover pesticide applications in states, including those without NPDES permit programs, which includes activities by NMDGF. Since 2012, NMDGF has obtained coverage under the nationwide general permit and obtained approval from the WQCC to conduct piscicide applications in the Rio Costilla basin. The new NPDES permit process creates a new redundancy by requiring a federal review of piscicide use in addition to the requirements of 20.6.4.16 NMAC.

Considering federal law already requires public disclosure under NEPA, review of effects on threatened and endangered species under ESA, and regulation of piscicides under the Clean Water Act and the Federal Insecticide, Fungicide, and Rodenticide Act, NMDGF proposes to amend 20.6.4.16 NMAC to streamline the piscicide use process for more efficient use of government resources and enhance fishery management and conservation activities in New Mexico. If the planned use of a piscicide is covered under a NPDES permit, the proposed piscicide use would require no additional WQCC review but will require post-treatment assessment monitoring and additional public notice to local entities. If a NPDES permit is not available (e.g., Congress acts on proposed legislation to remove the NPDES requirement for pesticides), then the WQCC would still have the opportunity to review the project in the absence of other federal review. Whether a hearing is held to review the project would be discretionary, however, rather than a mandate.

20.6.4.16 PLANNED USE OF A PISCICIDE: The use of a piscicide registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. Section 136 *et seq.*, and under the New Mexico Pesticide Control Act (NMPCA), Section 76-4-1 *et seq.* NMSA 1978 (1973) in a surface water of the state, shall not be a violation of Subsection F of 20.6.4.13 NMAC when such use is covered by a National Pollutant Discharge Elimination System (NPDES) permit or has been approved by the commission under procedures provided in this section. The use of a piscicide which is covered by a NPDES permit shall require no further review by the commission and the person whose application is covered by the NPDES permit shall meet the additional notification and monitoring requirements outlined in Subsection F of 20.6.4.16 NMAC. The commission may approve the reasonable use of a piscicide under this section if the proposed use is not covered by a NPDES permit to further a Clean Water Act objective to restore and maintain the physical or biological integrity of surface waters of the state, including restoration of native species.

A. Any person seeking commission approval of the use of a piscicide not covered by an NPDES permit shall file a written petition concurrently with the commission and the surface water bureau of the department. The petition shall contain, at a minimum, the following information:

(1) petitioner's name and address;

(2) identity of the piscicide and the period of time (not to exceed five years) or number of applications for which approval is requested;

(3) documentation of registration under FIFRA and NMPCA and certification that the petitioner intends to use the piscicide according to the label directions, for its intended function;

(4) target and potential non-target species in the treated waters and adjacent riparian area, including threatened or endangered species;

(5) potential environmental consequences to the treated waters and the adjacent riparian area, and protocols for limiting such impacts;

(6) surface water of the state proposed for treatment;

(7) results of pre-treatment survey;

(8) evaluation of available alternatives and justification for selecting piscicide use;

(9) post-treatment assessment monitoring protocol; and

(10) any other information required by the commission.

B. Within thirty days of receipt of the petition, the department shall review the petition and file a recommendation with the commission to grant, grant with conditions or deny the petition. The recommendation shall include reasons, and a copy shall be sent to the petitioner by certified mail.

C. The commission shall review the petition and the department's recommendation and ~~shall~~ within 90 days of receipt of the department's recommendation may hold a public hearing in the locality affected by the proposed use in accordance with Adjudicatory Procedures, 20.1.3 NMAC. In addition to the public notice requirements in Adjudicatory Procedures, 20.1.3 NMAC, the petitioner shall provide written notice to:

(1) local political subdivisions;

(2) local water planning entities;

(3) local conservancy and irrigation districts; and

(4) local media outlets, except that the petitioner shall only be required to publish notice in a newspaper of circulation in the locality affected by the proposed use.

D. In a hearing provided for in this Section or, if no hearing is held, in a commission meeting, the registration of a piscicide under FIFRA and NMPCA shall provide a rebuttable presumption that the determinations of the EPA Administrator in registering the piscicide, as outlined in 7 U.S.C. Section 136a(c)(5), are valid. For purposes of this Section the rebuttable presumptions regarding the piscicide include:

(1) Its composition is such as to warrant the proposed claims for it;

(2) Its labeling and other material submitted for registration comply with the requirements of FIFRA and NMPCA;

(3) It will perform its intended function without unreasonable adverse effects on the environment; and

(4) When used in accordance with all FIFRA label requirements it will not generally cause unreasonable adverse effects on the environment.

(5) "Unreasonable adverse effects on the environment" has the meaning provided in FIFRA, 7 U.S.C. Section 136(bb): "any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide."

E. After a public hearing or commission meeting, if no hearing is held, the commission may grant the petition in whole or in part, may grant the petition subject to conditions, or may deny the petition. In granting any petition in whole or part or subject to conditions, the commission shall require the petitioner to implement post-treatment assessment monitoring and provide notice to the public in the immediate and near downstream vicinity of the application prior to and during the application.

F. Any person whose application is covered by a NPDES permit shall provide written notice to local entities as described in 20.6.4.16 subsection C (1) to (4) and subsection (E) and implement post-treatment assessment monitoring within the application area.

[20.6.4.16 NMAC - Rn, Paragraph (6) of Subsection F of 20.6.4.12 NMAC, 05-23-05; A, 05-23-05; A, XX-XX-XX]

NEW MEXICO
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Resource Protection Division

MEMORANDUM

TO: Kris Pintado, Standards, Planning, and Reporting Team Leader

FROM: Bryan Dail and Gary Schiffmiller, Environmental Scientists

DATE: January 30, 2014

SUBJECT: Triennial Review – Gila River Segment Description and Associated Specific Conductivity Criteria

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Introduction and Purpose

The purpose of this memo is to address a geographic error in the New Mexico Administrative Code identifying segment-specific criteria for specific conductivity in tributaries of the Gila River.

Background and Problem Description

The segment description in New Mexico's Water Quality Standards, 20.6.4.503 NMAC, misidentifies a perennial reach of the West Fork Gila River. Correcting the description requires the associated specific conductivity criterion also be evaluated. The 20.6.4.503 NMAC currently states:

20.6.4.503 GILA RIVER BASIN - All perennial tributaries to the Gila river above and including Mogollon creek.

A. Designated Uses: domestic water supply, high quality coldwater aquatic life, irrigation, livestock watering, wildlife habitat and primary contact.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criteria apply: specific conductance 300 µS/cm or less for the **main stem of the Gila river above Gila hot springs** and 400 µS/cm or less for other reaches; 32.2°C (90°F) or less in the east fork of the Gila river and Sapillo creek below Lake Roberts; the monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.

[20.6.4.503 NMAC - Rp 20 NMAC 6.1.2503, 10-12-00; A, 05-23-05; A, 12-01-10]

Segment Description: The current language indicates a segment-specific criterion (for specific conductivity) on the **main stem Gila River above Gila hot springs**. However, this portion of the segment (i.e., above and below the Gila Hot Springs to the confluence with the East Fork Gila River) is identified on USGS maps as the West Fork of the Gila River (see Figure 1 below). The segment description should be corrected to be consistent with USGS maps of the Gila River system.

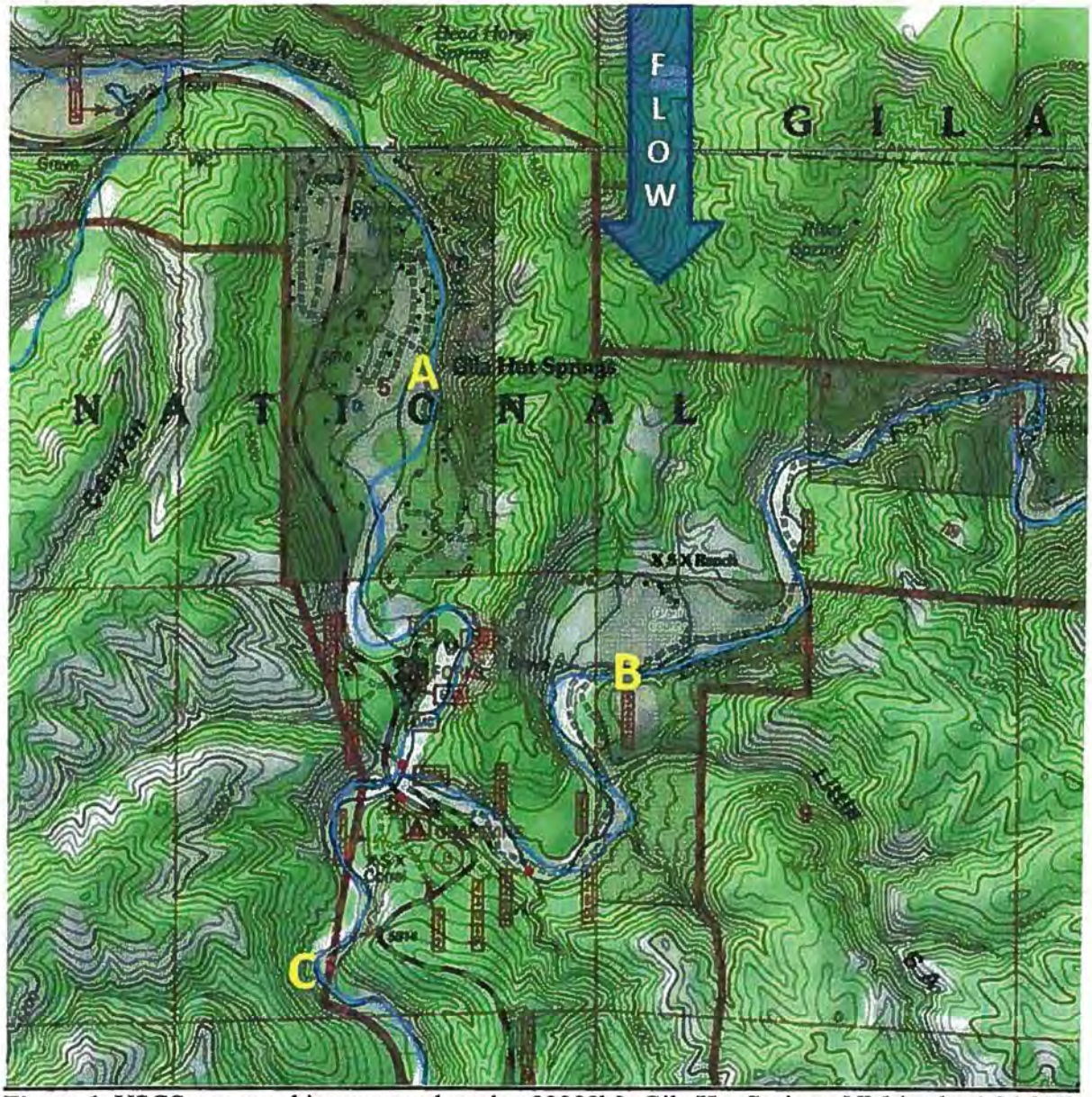

Figure 1. USGS topographic map quadrangle o33208b2, Gila Hot Springs, NM (scale: 1:24,000) showing the West Fork Gila River at Gila Hot Springs (A) the East Fork Gila River (B) and below the confluence of the W. Fork and E. Fork forming the Gila River (C). Red dots (●) indicate SWQB Water Quality sampling sites.

The roadway paralleling this segment of the West Fork Gila River is also identified on maps as "W Fork Road" (see Figure 2 below).

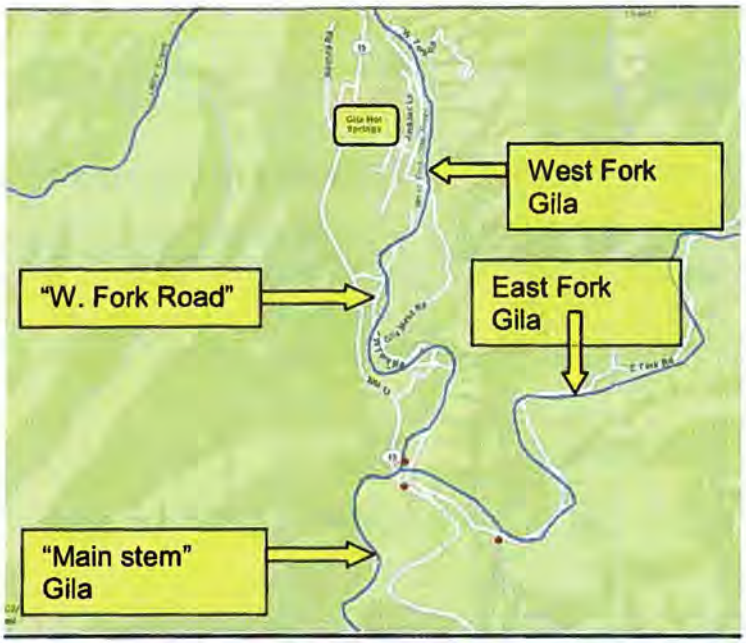

Figure 2. Road map with labels showing W Fork Gila River, W. Fork Rd, East Fork Gila River, E. Fork Rd. and main stem Gila River. Red dots (•) indicate SWQB Water Quality sampling sites.

Specific Conductivity Revision

The language misidentifying a segment of the West Fork Gila River as "main stem" has been present since the New Mexico Water Quality Standards were first adopted and criteria for specific conductivity (SC) have been part of this segment since 1976. As a statement of basis was not available, the presumption is that the influence of Gila Hot Springs Complex (GHSC; a series of geothermal springs near the town of Gila Hot Springs) was considered to be a possible contributor to high specific conductivity downstream of its confluence with the West Fork Gila River. Specific conductivity of thermal waters is often many times that of cold spring-fed, snow melt and rain-fed waters, and data exist for several hot springs in the Gila area. To evaluate the assignment of SC criteria to the West Fork Gila River segment, previously misidentified as the main stem Gila River, SWQB investigated the water quality data for hot springs in the area (Table 1a) and the West Fork Gila River below the GHSC and summarized the available data (Table 1b).

Data indicate that the relatively small volume of GHSC water entering the West Fork Gila River does not increase SC in the West Fork Gila River appreciably. West Fork Gila River below the GHSC maintains a SC well below 300 µS/cm (Table 1b). The average SC is 214 µS/cm and the maximum is 259 µS/cm. The total flow of GHSC waters to the West Fork Gila River has been documented as an average of 0.44 cfs; the GHSC main source has a rate of 0.17 cfs at peak flow (Schwab et al., 1982; Lund et al., 1991; Witcher 2002;). Average annual flow at the most

upstream available gage in the Gila watershed, Gila River near Gila, NM (090430500), was 156 cfs (1929-2012). Thus, even at the lowest recorded flows, the addition of higher specific conductivity water from GHSC is minimal, and the existing segment-specific SC criterion (400 µS/cm) below this source does not reflect actual conditions. While the average SC measured below GHSC (214±27 µS/cm) is different from the average SC measured above the confluence (165±22 µS/cm), both are consistently well below a 300 µS/cm criterion including standard deviation around the mean.

Table 1a. Specific conductivity (µS/cm) of grab samples at select hot springs in the Gila drainage (Summers, 1972)

Water body	Specific conductivity* 1	Specific conductivity 2	Specific conductivity 3	Specific conductivity 4
Hot Springs				
Gila Hot Springs (W. Fork Gila)	640	560	620	590
Hot Springs (E. Fork Gila)	560	560	581	574
Hot Springs (M. Fork Gila)	720	735	771	762

Table 1b. Specific conductivity (µS/cm) of grab samples at select water quality grab samples in Gila River tributaries performed by the Surface Water Quality Bureau

Water body	Specific conductivity* 1	Specific conductivity 2	Specific conductivity 3	Specific conductivity 4
Gila tributaries				
West Fk Gila River (bel GHSC)	204	239	259	204
Middle Fk Gila River (abv W. Fk Gila)	105	255	171	247
East Fk Gila River (abv Gila River)	213	221	319	313

*SC measurements are reported in µS/cm; river samples were conducted by SWQB and are from 4 grab sample taken between March and October of 2011; Hot Springs sampling was reported in W.K. Summers, 1972 as measured by several contract labs (1 through 4). Data in green highlight that the West Fork Gila River is consistently able to attain the "300 or below" SC criteria.

In addition, assessed perennial tributaries to the West Fork Gila (Middle Fork Gila) all consistently show that SC is below 300 µS/cm (Table 2).

Table 2. Specific conductivity (µS/cm) of tributaries of the West Fork Gila River (Middle Form Gila and tributaries thereto) performed by the Surface Water Quality Bureau

Water Body:	Middle Fork Gila	Iron Creek	Gilita Creek	Willow Creek
Specific Conductivity (µS/cm ±SD*)	215±21.1	99±5.0	95±0.9	78±0.8

*SD= Standard deviation of the mean

Additional tributaries to the West Fork Gila River, (White Creek, Turkey Feather Creek and Cub Creek) are not currently assessed, however their combined influence on the West Fork are such that West Fork Gila SC below these tributaries is well below the 300 µS/cm criteria (Table 1b).

The segment specific SC of 400 µS/cm for all other perennial tributaries (other than the West Fork Gila River and its tributaries) above and including Mogollon creek is appropriate given SWQB's most recent survey data for those tributaries (Table 3).

Table 3. Specific conductivity statistics for East Fork, Middle Fork and main stem Gila River and tributaries; SWQB data from 2005 and 2011 surveys.

Specific Conductivity (µS/cm)	E. Fork Gila River (abv Gila River)	Gila River (abv Turkey Creek.)	Sapillo Creek	Turkey Creek	Middle Fork Gila River (abv West Fork Gila River)	Beaver Creek
Average:	286	324	336	298	216	304
Max:	319	326	368	301	250	306

Recommended Revisions

To be consistent with USGS maps and local knowledge; the segment description should be revised as follows (strikeout indicates a change). According to analyses of SC and flow data, the West Fork Gila River and its tributaries currently maintain SC criteria of 300 µS/cm. The segment specific SC of 400 µS/cm for all other perennial tributaries (other than the West Fork Gila River and its tributaries) upstream of and including Mogollon Creek is appropriate.

20.6.4.503 GILA RIVER BASIN - All perennial tributaries to the Gila river ~~above~~ upstream of and including Mogollon creek.

A. Designated Uses: domestic water supply, high quality coldwater aquatic life, irrigation, livestock watering, wildlife habitat and primary contact.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criteria apply: specific conductance of 400 µS/cm or less for all perennial tributaries except West Fork Gila and perennial tributaries thereto, specific conductance of 300 µS/cm or less. ~~main stem of the Gila river above Gila hot springs and 400 µS/cm or less for other reaches~~; 32.2°C (90°F) or less in the east fork of the Gila river and Sapillo creek downstream of Lake Roberts; the monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.

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USE ATTAINABILITY ANALYSIS

AQUATIC LIFE USES FOR THE MIMBRES RIVER IN NEW MEXICO

NEW MEXICO ENVIRONMENT DEPARTMENT

SURFACE WATER QUALITY BUREAU

MARCH 2014

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SUMMARY

This Use Attainability Analysis (UAA) is conducted to determine factors affecting the attainment of aquatic life use (ALUs), to identify the most protective aquatic life use(s) for the Mimbres watershed, and to perform a data-driven evaluation of current or existing uses. From the analysis, the Surface Water Quality Bureau (SWQB) proposes to refine the currently designated uses within a weight of evidence approach. Reaches of the Mimbres River exceed criteria for its designated ALU as high quality coldwater and coldwater; surveys of the chemical, physical, and biotic indicators in the middle to lower Mimbres River watershed suggest natural temperatures of cold to cool, with warm water temperature transitions. It is recognized in the current water quality standards that in some instances, adopted numeric criteria for a body of water reflect current uses and not necessarily the existing or attainable conditions (Subsection B, 20.6.4.10 NMAC):

> **20.6.4.10 REVIEW OF STANDARDS; NEED FOR ADDITIONAL STUDIES:**
> **B.** It is recognized that, in some cases, numeric criteria have been adopted that reflect use designations rather than existing conditions of surface waters of the state. Narrative criteria are required for many constituents because accurate data on background levels are lacking. More intensive water quality monitoring may identify surface waters of the state where existing quality is considerably better than the established criteria. When justified by sufficient data and information, the water quality criteria will be modified to protect the attainable uses.

This UAA follows the EPA Water Quality Standards Handbook (EPA 1994) and addresses the following questions:

(1) What are the current aquatic life uses for the Mimbres and its significant tributaries?

(2) What are the causes of any impairment of the aquatic life uses?

(3) What are the aquatic life uses that can be attained based on the physical, chemical, and biological characteristics of the water body?

Water Quality Survey data (NMED/SWQB 2011) show temperature criteria were exceeded in the lower Mimbres River (perennial reaches downstream of Willow Springs) and in the middle Mimbres (perennial reaches of Willow Springs Canyon to Cooney Canyon). Based on this UAA, it is recommended to:

(1) Retain the headwater segment, Cooney Canyon to headwaters of the Mimbres River, and East Fork Mimbres (McKnight canyon) from the fish barrier to the headwaters as a High Quality Coldwater (HQCW) Aquatic Life Use (ALU), including all perennial tributaries from New Mexico ecoregion 23d (Subalpine forests);

(2) Re-designate the perennial reaches of the middle Mimbres River as a Coldwater (CW) ALU, from below Cooney Canyon to just below the upper boundary of the Nature Conservancy property (Upper TNC), at a point where Allie Canyon joins the Mimbres River; and,

(3) Assign a Coolwater ALU to the perennial reaches of the main stem of the Mimbres River downstream of Allie Canyon.

A weight of evidence approach was used to determine the attainable ALU including recent thermograph (water temperature) data (2009, 2003), river physiognomy, fish communities, and New Mexico's Ecoregional setting (Omernik,1987). Each will be discussed in support of the UAA recommendations.

INTRODUCTION

Study Area

The Mimbres is listed as an endorheic "closed basin" watershed in southwestern New Mexico (USGS HUC 13030202). The watershed spans several ecological zones or "ecoregions" (Figure 1 and Table 1). As described in New Mexico's Standards for Interstate and Intrastate Surface Waters (NMAC 20.6.4, 2011), the Mimbres has designated uses of irrigation, domestic water supply, livestock watering, wildlife habitat, and primary contact. Aquatic life uses include high-quality cold water for the perennial reaches *upstream of the confluence with Willow Springs canyon and all perennial tributaries therein* and coldwater downstream of the confluence (20.6.4.803 and 20.6.4.804 NMAC).

Figure 1. Map of the Mimbres River, current segments, and its Ecoregional setting. (See Table 1 for alphanumeric

The watershed drains an area of approximately 5,140 square miles (13,313 square km), and consists of approximately five perennial confluences or tributaries; the mainstem is approximately 91 miles in length (146 km). Snowmelt and rain-fed headwaters arise from the southwestern slopes of the Black Range (igneous mountain range running north-south in Sierra and Grant counties in west-central New Mexico); the river continues through the Mimbres valley into the

Chihuahuan Desert grasslands south of Silver City. The Mimbres headwaters are in U.S. Forest Service lands and the reach flowing through the Mimbres valley is mostly privately held, including five linear miles in conservation easement by The Nature Conservancy (TNC) organization for the protection of riparian zones as habitat for the Chiricahua leopard frog (*Lithobates chiricahuensis*), to restore natural flow regime, and promote recovery of aquatic habitat loss (TNC; accessed 01/2014).

Water use in the Mimbres basin includes both surface water diversions for agriculture and groundwater pumping for agriculture, mining, and municipal uses. Irrigation began in the Mimbres basin in the early 1900's, expanding significantly during the 1930's and peaking in the mid to late 1970's (White, 1934; Theis, 1939; Cuddy & Keyes., 2011). Consumption of groundwater for irrigation, for instance, peaked in 1979 at 72,725 Acre-Feet, whereas more recent data shows a continual decline in use, and less than half of the peak drawdown (28,170 Acre-Feet in 2005) (Cuddy *et al*., 2011). Basinwide analysis, however, has shown significant drawdown as evidenced by an average of 0.3 ft well water level loss per year (Effati, 2014).

Mimbres River surface flow ceases north of Deming, NM, however the dry river bed periodically channels storm flow beyond the area where cessation of surface flow typically occurs. The Mimbres River system traverses four Level IV Ecoregions; the Arizona/New Mexico Subalpine Forests (23d), the Montane Conifer Forests (23c), the Madrean Lower Montane Woodlands (23b), and the Chihuahuan Desert Grasslands (24b) (Figure 1 and Table 1).

Table 1: Ecoregions of the Mimbres basin*

Ecoregion Code	Relevant Segment	Name	Elevation (ft)	Hydrology	Physiography
23		**Arizona/New Mexico Mountains**			
23b	20.6.4.804	Madrean Lower Montaine Woodlands	5,500-7,200	Moderate to high gradient streams	High hills, low mountains and some canyons
23c	20.6.4.804	Montane Conifer Forests	7,000-9,500	High to moderate gradient streams	Open low mountains, numerous canyons
23d	20.6.4.804	Arizona/New Mexico Subalpine Forests	9,500+	High gradient perennial streams	High mountains, steep slopes
24		**Chihuahuan Deserts**			
24a	20.6.4.803	Chihuahuah Basins and Playas	<4,500	Closed basin ephemeral streams	Rolling hill basins, sediment filled grabens
24b	20.6.4.803	Chihuahuan Desert Grasslands	<4,500	Perreneal, intermittant	Plateaus, intermountain basins, alluvial fans

*Griffiths et al., 2006

Attainability of Current Aquatic Uses and Temperature Criteria in the Mimbres River and its Tributaries

The New Mexico Water Quality Control Commission (NMWQCC) promulgates water quality standards for inter- and intrastate waters and has defined the Mimbres as a closed river basin within segments 20.6.4.803 and 20.6.4.804 NMAC of the water quality standards, including:

1) Mimbres River perennial reaches below the town of Mimbres, NM (Willow Springs Canyon; Latitude: 32.8561861 Longitude: -107.9797612).
2) Mimbres River perennial reaches above the town of Mimbres, NM (Willow Springs Canyon),
3) Mimbres River at Bear Canyon Reservoir (Latitude: 32.8828523 Longitude: -107.9922618), and
4) Ephemeral and Intermittent tributaries

State Water Quality Standards (WQS) are codified in the New Mexico Administrative Code (NMAC) as *Standards for Interstate and Intrastate Surface Waters* (20.6.4 NMAC), (WQCC, 2012). Segments are defined in 20.6.4.7.S (2) NMAC:

> **"Segment"** means a classified water of the state described in 20.6.4.101 through 20.6.4.899 NMAC. The water within a segment should have the same uses, similar hydrologic characteristics or flow regimes, and natural physical, chemical and biological characteristics and exhibit similar reactions to external stresses, such as the discharge of pollutants.

Segments of the Mimbres are currently designated as a high-quality coldwater (HQCW) and coldwater (CW) ALUs in **20.6.4.804** NMAC and **20.6.4.803** NMAC, respectively. However, exceedences of temperature have historically occurred along these two segments (SWQB thermograph surveys of 1998, 2000 and 2003) including during the most recent water quality survey for the Mimbres River watershed in 2009 (NMED/SWQB, 2011a). The temperature criteria for ALUs in the New Mexico Water Quality Standards are listed in Table 2.

Table 2: Temperature Criteria (°C) for ALUs in New Mexico. Chronic temperature criteria (4T3, 6T3) are the temperatures not to exceed for a period of 4 or 6 hours on more than 3 consecutive days, respectively.

Criterion	High Quality Coldwater	Coldwater	Marginal Coldwater	Coolwater	Warmwater	Marginal Warmwater
4T3	20	-	-	-	-	-
6T3	-	20	25	-	-	-
T_{MAX}	23	24	29	29	32.2	32.2

A summary of thermograph statistics for the most-recent survey (2009) is shown below (Table 3a). Both acute (T_{MAX}) and chronic (4T3, 6T3, as appropriate) temperature criteria were exceeded in the two segments of the Mimbres river. In the lower Mimbres segment **20.6.4.803 NMAC**, the coldwater ALU temperature criteria were exceeded at Rancho del Rio (**45Mimbre062.7**) and at Royal John Bridge (**45Mimbre085.7**). Specifically, the data records from Rancho del Rio, the most downstream thermograph site, exceed the 6T3. The 6T3 criteria applicable to the CW ALU requires temperatures not exceed 20°C for more than six hours, for more than three consecutive days (20.6.4.7.A(2) NMAC). At the Rancho del Rio site, the 6T3 criteria was exceeded eight times during the 2009 thermograph campaign; this was consistent with findings at the same site during previous thermograph deployment in 2003 (Table 3b). At Royal John Bridge both the T_{MAX} and 6T3 coldwater ALU criteria were exceeded; the T_{MAX} exceeded 30 °C, and there were 28 exceedences of the 6T3.

The USGS Gage station (**45Mimbre104.3**) located at the lower end of segment 20.6.4.804 NMAC (and below the TNC property) was not measured in 2009; however this station exceeded the T_{MAX} during the 2003 thermograph survey (Table 3b). Four thermograph stations were deployed in 2009 from the lower TNC property north of the town of Mimbres, NM to the headwaters at Cooney Campground (**45Mimbre127.4**). The data were used to assess the high quality coldwater ALU for segment **20.6.4.804 NMAC.** In 2009, the station at Lower TNC preserve (**45Mimbre109.0**) was in exceedence of both the

T_{MAX} and the 4T3 criteria indicating that the Mimbres was unable to meet the high quality coldwater ALU criteria for both acute and chronic temperatures. The upper TNC preserve, McKnight canyon (sometimes referred to as the East Fork of the Mimbres) and Cooney Campground thermograph records were fully supportive of the HQCW designation.

Table 3a. Summary Statistics of Water Temperatures for the Mimbres River (2009)

Station ID	Location/Current Aquatic Life Designation (ALU)	Elevation	Reference date*	T_{MAX}	4T3	6T3
20.6.4.803	**Coldwater ALU**	**(ft)**		**°C**	**°C**	**°C**
45Mimbre062.7	Rancho del Rio	5,052	7/21/2009	23.3	NA	20.9
45Mimbre085.7	Royal John Bridge	5,453	7/27/2009	30.1	NA	24.1
45Gallin021.5	Gallinas Creek-Tributary of Mimbres	6,667		20.6	NA	17.4
20.6.4.804	**High Quality Coldwater ALU**					
45Mimbre109.0	Lower TNC Preserve on Mimbres	6,024	7/27/2009	24.6	24.6	NA
45McKnig011.9	McKnight Canyon-East Fork Mimbres	7,152		22.0	18.0	NA
45Mimbre127.4	Cooney Campground on Mimbres River	6,857		20.9	16.4	NA

Temperature readings in red indicate exceedence of the criterion, NA=Not Applicable, ND=No Data.

Table 3b. Summary Statistics of Water Temperatures for the Mimbres River (2003)

Station No.	Location/Current Aquatic Life Designation (ALU)	Elevation	Reference date	T_{MAX}	4T3	6T3
20.6.4.803	**Coldwater ALU**	**(ft)**		**°C**	**°C**	**°C**
45Mimbre062.7	Rancho del Rio	5,052	8/3/2003	29.1	NA	19.9
45Mimbre085.7	Royal John Bridge	5,453		ND	NA	ND
45Gallin021.5	Gallinas Creek-Tributary of Mimbres	6,667		ND	NA	ND
20.6.4.804	**High Quality Coldwater ALU**					
45Mimbre104.3	USGS Gage	5,920	8/1/2003	28.9	24.9	NA
45Mimbre109.0	Lower TNC Preserve on Mimbres	6,024	6/26/2003	29.7	22.5	NA
45Mimbre112.2	Upper TNC Preserve on Mimbres	6,155		18.6	16.7	NA
45McKnig011.9	McKnight Canyon-East Fork Mimbres	7,152		21.2	18.1	NA
45Mimbre127.4	Cooney Campground on Mimbres River	6,857		ND	ND	NA

Temperature readings in red indicate exceedence of the standard, NA=Not Applicable, ND=No Data.

An additional gauge of attainable conditions for the Mimbres River is the Maximum Weekly Average Temperature (MWAT) index. The MWAT is a measure of chronic temperature trends calculated from the average of daily temperature measurements, which are again averaged over the seven contiguous days of highest daily averages from the record. A chronic temperature index is commonly used to set standards for thermal regimes of streams (Oregon Department of Environmental Quality, 2004; Colorado Department of Public Health and Environment, 2011), and a great deal of comparative literature also exists relating MWAT in particular to thermal requirements of freshwater fish (Brungs and Jones, 1977). The MWAT can be applied in a flexible way, such as Colorado's criteria that address stream order, species present, and even seasonal limits on temperature based on spawning (Todd et al., 2008). Colorado's MWAT criterion for an equivalent stream (*i.e.,* CWAL) to the Mimbres is 18.2 °C, which itself is similar to the EPA guidance for salmonids (18°C). The MWAT calculated from 2009 thermograph data show that only three sites would achieve either thermal limit; Gallinas Creek, McKnight Canyon and Cooney Campground, which are all low-order tributaries of the Mimbres. New Mexico's water quality standards do not require the use of the MWAT for chronic temperature assessments; however because of its utility in identifying attainable uses as related to fish communities,

the SWQB has developed an Air-Water Temperature Correlation for New Mexico streams. This correlation, when compared with MWAT calculated from SWQB-deployed thermographs, allows for the calculation of chronic and acute temperature indices when and where data may not be available (NMED/SWQB, 2011). The advantage of the Air-Water Temperature Correlation is that other than in streams which receive significant groundwater inputs, air temperature has the greatest influence on stream temperature. Air temperatures, either modeled or measured, are more readily available and spatially representative than periodic and spatially limited stream temperature datasets. The Air-Water Temperature Correlation uses recorded thermograph data from 293 New Mexico stream locations and the Parameter-elevation Regression on Independent Slopes elevation Model (PRISM) that predicts air temperatures which can then be used to predict water temperatures (PRISM Climate Group, 2004). The New Mexico regression correlation results relate July average air temperatures to estimate attainable temperature statistics such as MWAT, but can also be used to estimate TMAX and chronic temperature indices (4T3, 6T3). Mimbres air temperature data for 2009 as well as the PRISM modeled air temperature are shown in Table 6 in appendix B for comparison of modeled and actual air temperatures. Briefly, PRISM-modeled air temperatures are within ± 1.6 degrees of the July average air temperature, and in no particular trend direction. This suggests microclimate differences and model errors may account for small error being included in the projection. The net recommendations of the Air-Water Temperature Correlation analyses for New Mexico streams are:

- High quality and coldwater uses may be attainable if July average air temperature is ≤18°C;
- Marginal coldwater and coolwater uses may be attainable if July average air temperature is >18°C and ≤23 °C; and
- Uses more restrictive than warmwater are generally not attainable if July average air temperature is >23°C.

The modeled MWAT, 4T3, 6T3 and T_{MAX} for Mimbres thermograph stations as well as the actual MWAT for the thermograph survey (2009) are shown in Table 3c.

Table 3c. Air-Water Temperature Correlation-modeled criteria for the Mimbres River.

Station ID	Location	Current Aquatic Life Use	July Average Air Temp, °C (PRISM)	MWAT 2009 Thermograph data	MWAT Modeled	4T3 modeled	6T3 modeled	TMAX modeled
	20.6.4.803							
45Mimbre062.7	Rancho del Rio	Coldwater	24.6	19.65	24.6	**NA**	**26.6**	31.3
45Mimbre085.7	Royal John Bridge	Coldwater	23.5	21.47	23.5	**NA**	**25.5**	30.1
45Gallin021.5	Gallinas Creek-Tributary of Mimbres	Coldwater	21.0	16.89	21.0	**NA**	**22.9**	27.4
	20.6.4.804							
45Mimbre109.0	Lower TNC Preserve on Mimbres	High Quality CW	22.2	19.62	22.2	**25.4**	**NA**	28.7
45McKnig011.9	McKnight Canyon-East Fork Mimbres	High Quality CW	20.5	16.09	20.5	**23.6**	**NA**	26.9
45Mimbre127.4	Cooney Campground on Mimbres River	High Quality CW	20.5	15.63	20.5	**23.6**	**NA**	26.9

The Air-Water Temperature Correlation-modeled MWAT values are similar to (Royal John Bridge, Lower TNC) or exceed the 2009 thermograph data-calculated MWAT. This trend of higher modeled MWAT values (in all cases) may have occurred for several reasons; (1) The PRISM record of July temperatures used in the model are averaged for the period 1981-2010. Averaging may smooth extremes

and trends in the modeled temperature record. This, in combination with interannual variation in the water temperature record (in this case, lower 2009 thermograph-generated MWAT) could lead to poor agreement with the modeled MWAT. (2) Bias in placement of the thermographs may also lead to lower values as compared to those modeled by the air-water temperature correlation. Namely, thermographs are placed in the sections of a stream to avoid being buried in silt, emergence during low flow, and believed to have consistent flow. Despite these provisos, both measured and modeled chronic (MWAT, 4T3, 6T3) and acute (T_{MAX}) temperature criteria suggest that the reach from Cooney canyon downstream to Upper TNC are not expected to attain HQCW ALUs and are sometimes challenged to attain the CW ALU (Tables 3a,c). For the reach downstream of the Upper TNC (excluding the Gallinas Creek tributary), the 2009 thermograph and modeled temperature criteria suggest that the CW ALU is not attainable and the T_{MAX} suggests Cool to Warmwater ALU transitions are likely to be more appropriate and attainable.

Geomorphology of the Mimbres River Basin

In general, the ecoregional setting, highly drained soils and sediments, natural sinuosity, and frequent departure from sparse riparian vegetation in the Mimbres River basin promote high water temperatures. As streams progress from headwater seeps, to low order streams, and then to rivers, physical changes occur that define the biota. Small streams are in intimate contact with the parent lithology and exhibit physical properties under strong influences of their ground water origins. In low order streams, emergent ground water temperature and the nature of the riparian flora strongly moderate temperatures. As streams move through the landscape, they generally increase in size and flow, widen, and the riparian shading becomes less of an influence on insolation (*i.e.*, solar radiation). Stream physico-chemical characteristics are a result of multiple water sources (springs and tributaries), the changing geology, and the influence of allochthonous and autochthonous productivity.

The Mimbres River headwaters arise from north of the town of Mimbres, and flow through deep incised canyons with narrow, forested riparian zones, which keep waters relatively cool (Fig 2a). However, as the river progresses from AZ/NM Subalpine Forests (23d) through Montane Conifer Forests (23c) to the Madrean Lower Montane Woodlands (23b); the stream physiognomy adopts a typical meandering river valley and has an active channel that is often underfitting the total channel width which it can occupy during times of flood (Figures 2b, 2c, and 2d; elevations in Table 3a). Snowmelt, high flow events, and sedimentation can significantly change the flow path of the middle to lower sections of the Mimbres River and present challenges to development of a persisting, shading riparian community. The SWQB uses these geomorphic, stream channel, and riparian community features to establish Assessment Units (AU) within segments to capture the changing topography and thus influences to water quality (20.6.4.7.S (2) NMAC).

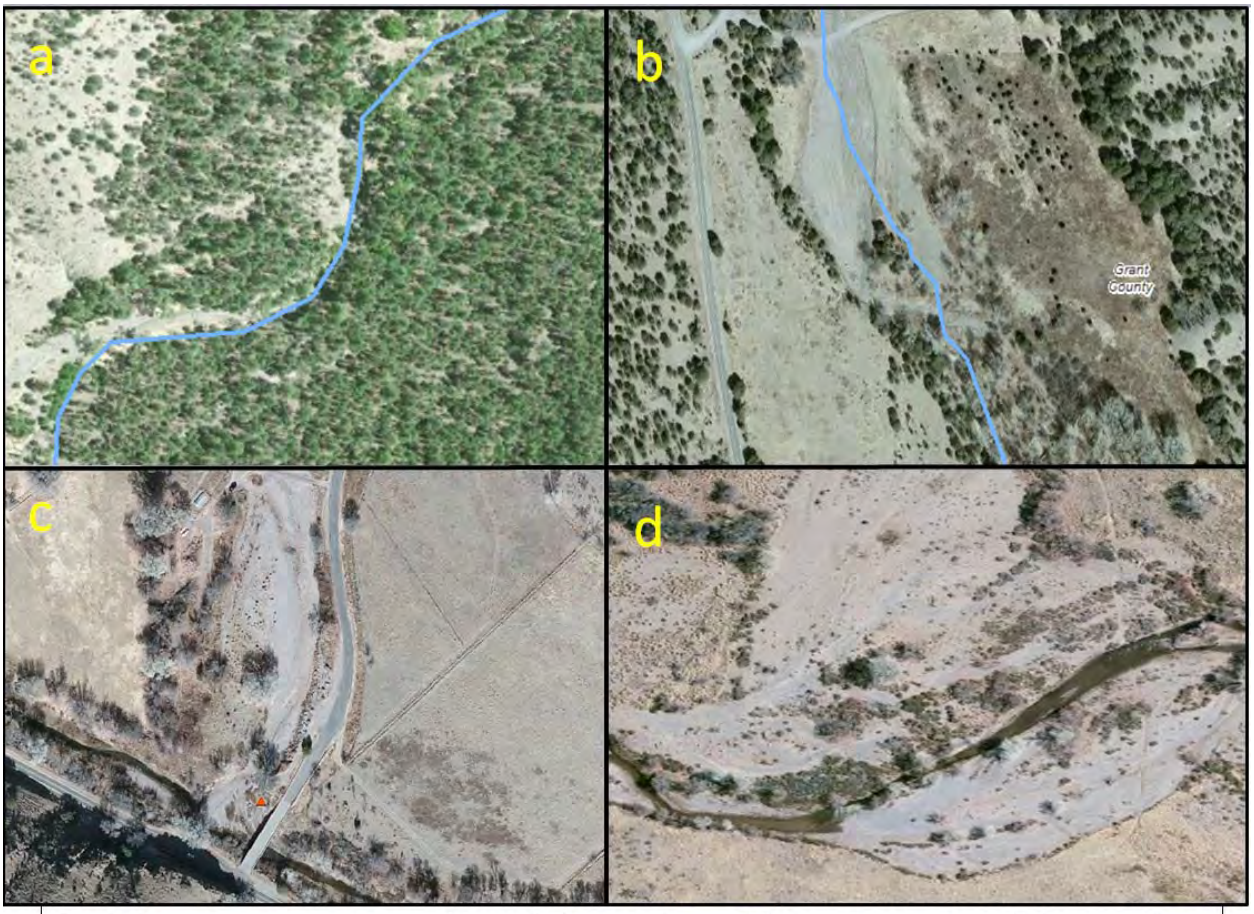


Fig 2. Stream course morphology of the Mimbres. (a) Cooney Canyon, (b) Lower TNC (c) Royal John bridge and (d) Rancho del Rio

AUs are designed to represent surface waters with homogenous water quality (WERF 2007), however, natural changes to landscape features within an AU occur along a continuum and thus changes to water quality can occur within an AU. Once the Mimbres River reaches the valley floor (below Cooney Canyon), and flows into the Madrean Lower Montane Woodlands ecoregion (23b), it adopts a meandering character. The riparian flora shades only small fractions of the active channel, and even when present, these riparian areas are often abandoned when the river migrates (meanders) to a new flowpath or channel. Development of shading riparian flora is also challenged by the nature of soil and sediment present in the watershed that may limit water storage available to support plant growth. The sediments in the middle to lower Mimbres are a loose, porous, unconsolidated Quaternary alluvium and contain gravels and sand that are many hundreds of feet thick in places (Heywood 2002). Major soil units of the upland, valley floor, and basin Mimbres valley beginning two miles downstream of the McKnight canyon confluence with the Mimbres are shown in Table 4. Drainage classes listed for soil within the basin are all *well* to *excessively well drained* and thus water may be lost rapidly from the rooting zone. Available Water Storage (AWS) is a measure of water storage capacity to support plant growth and is defined as the magnitude of the difference between field capacity (the maximum amount of water a soil can hold against gravity) and the wilting point (the amount of soil moisture below which plants wilt and die) (USDA NRCS, 2005). According to the AWS drainage classifications, most Mimbres valley soils have a limited

capacity to store water in support of plant growth; however porous soils may be advantageous in areas where the water table is proximal to the rooting zone (Table 4).

Table 4. Major soil units of the Mimbres valley, their geomorphic positions, drainage classes, and water storage availability (AWS) to support plant growth. AWS <25 cm indicates soils prone to drought and challenging to plant growth.

Major Upland Soil Units	Geomorphic Position	Drainage Class	Available Water Storage (cm, 1-100)
Lonti-Ustorthents	Summits and Shoulders	Well drained	11.84
Sanloren-Majada Var.	Terraces, Ridges, Backslopes	Well drained	11.70
Guy	Hillslope/Footslopes	Well drained	9.97
Muzzler	Hills/Toeslope	Well drained	3.41
Major Valley Floor Units			
Carnero-Santa Fe	Hillslopes/Footslopes	Well drained	10.05
Paymaster-Ellicott-Monzano	Alluvial fans	Well drained	12.20
Manzano	Valley floors	Well drained	18.84
Major Basin and Range Units			
Riverwash	Valley floors	Well drained	3.00
Stellar	Basin floors/footslopes	Well drained	15.52
Mimbres	Stream terraces	Well drained	19.96
Arizo-Vinton	Terraces/Alluvial fans	Excessively well drained	5.94

Historical and Current Observations of Aquatic Life in the Mimbres River

Another approach to determining the proper attainable aquatic life use is to understand the thermal preferences of the biological assemblages therein (Lyons 1996, Wehrly et al., 2003). To avoid the circular argument that current biological assemblages define the stream, and the possibility that changes in the thermal regime may have selected for the current assemblage, it is important, whenever possible, to determine the historical assemblages present in the water body under consideration. The earliest records for Mimbres fish communities date to 1944 and there have been periodic samplings along much of the perennial reaches in the decades since. Historical data compiled by the University of New Mexico, Museum of Southwestern Biology (MSB/UNM, 2013) indicate that three to five species of fish can be considered native to the watershed. These include beautiful shiner (*Cyprinella formosa*), the federally-listed Chihuahua chub (*Gila nigrescens*), Rio Grande sucker (*Pantosteus plebeius*) and fathead minnow (*Pimephales promelas*). Of these, beautiful shiner has been recorded as extirpated (last encountered in a 1950 collection, Sublette et al., 1990) and fathead minnow was recorded only once in recent surveys, in 1989 (MSB, 2013). Rio Grande sucker and Chihuahua chub have been recorded often from 1947 to the present and their historical presence and thermal preferences, along with several successful introduced

species (rainbow trout and longfin dace) are shown in Tables 5a and 5b (Sublette et al., 1990). Of the native fish species currently or historically found in the Mimbres basin, all are either coolwater (sometimes termed "intermediate") or warmwater species (Sublette and Hatch, 1990; Zaroban et al., 1999; Minckley, 1973; Schiffmiller, pers comm).

Table 5a. Historical Native Fish Fauna of the Mimbres Drainage

Genus/species	Common name	Extant	Thermal Preference
Cyprinella formosa	Beautiful shiner	extirpated[b]	Warmwater
Gila nigrescens	Chihuahua chub	yes	Coolwater
Pimephales promelas	Fathead minnow	unlikely	Warmwater
Pantosteus plebeius	Rio Grande sucker[a]	yes	Coolwater
Cyprinodon sp.	Pupfish sp	unlikely	Warmwater

[a]Stable in Mimbres River [b]Jelks et al., 2008, Pittenger 1997.

Table 5b. Historical non-native fish fauna of the Mimbres Drainage

Genus/species	Common name	Extant	Thermal Preference
Oncorhynchus gilae	Gila trout[a]	East Mimbres	Coldwater
Oncorhynchus mykiss	Rainbow trout[b]	yes	Coldwater
Salmo trutta	Brown trout	maybe	Coldwater
Agosia chrysogaster	Longfin dace[c]	yes	Warmwater
Rhinichythys osculus	Speckled dace[d]	yes	Coolwater
Ictalurus punctatus	Channel catfish	unlikely	Warmwater
Lepomis cyanellus	Green sunfish[e]	unlikely	Warmwater
Lepomis macrochirus	Bluegill	unlikely	Warmwater
Lepomis megalotis	Longear sunfish	unlikely	Warmwater
Micropterus salmoides	Largemouth bass	unlikely	Warmwater
Pomoxis annularis	White crappie	unlikely	Warmwater

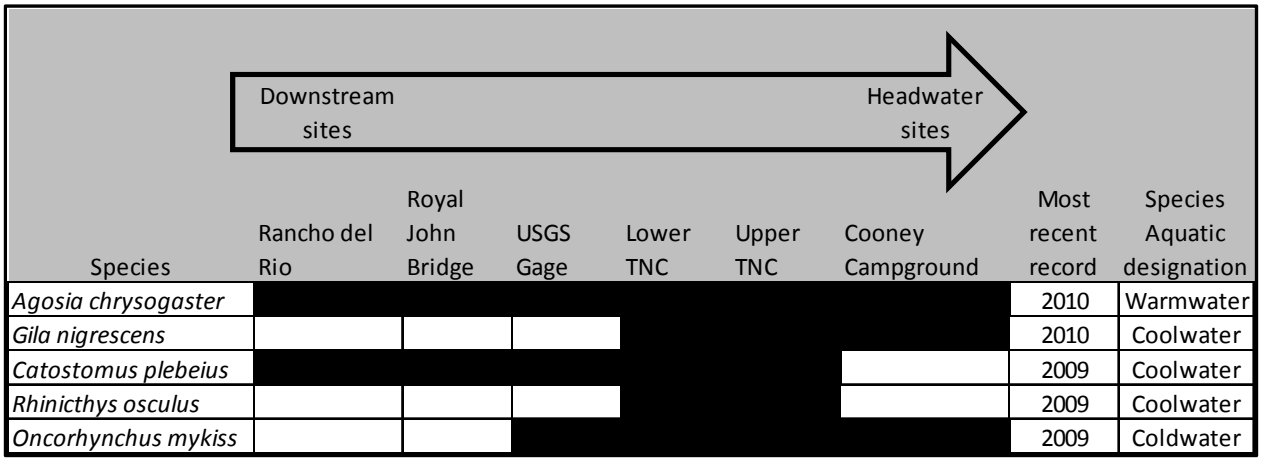
[a]Transplants to East Mimbres, a tributary of the Mimbres, as a replicated population from the nearby Gila basin for conservation management
[b]Introduced to all major drainages in New Mexico; in Mimbres by 1949 (Koster)[c]Introduced to the Mimbres in the 1960s; established.
[d]Introduced to the Mimbres in the 1970s
[e]Introduced into the Mimbres prior to 1950

Of the sixteen native, introduced, and transplanted species encountered in the historical record, only five appear with regularity in recent surveys (2009, 2010; Figure 3). Extant native species include Chihuahua chub and Rio Grande sucker. Non-native species that appear to be successfully established in the Mimbres River include longfin dace (*Agosia chrysogaster*), speckled dace (*Rhinichthys osculus*) and rainbow trout (*Oncorhynchus mykiss*). Other fish in the historical record (sunfish, bass, and catfish) occur occasionally and should be considered unlikely as reproducing populations due to unsuccessful introductions, or as escapes from Bear Canyon Reservoir. The most abundant species in SWQB's 2002 and 2009 survey data are listed in Table 5c by sampling station, however, a longer term record showing species distributions across additional sites compiled by SWQB and the MSB/UNM is shown in Figure 3.

Table 5c. Species richness (no. of species observed), abundance (no. of individuals observed), dominant species and species aquatic designation for Mimbres basin fish as compiled by SWQB.

Station Name	Year	Species Richness	Abundance	Dominant Sp*.	Sp Aq Des**
Rancho del Rio	2002	2	1,949	*A. chrysogaster*	Warmwater
Rancho del Rio	2009	2	533	*C. plebeius*	Coolwater
USGS Gage	2002	3	322	*A. chrysogaster*	Warmwater
Lower TNC	2002	5	271	*C. plebeius*	Coolwater
Upper TNC	2009	5	89	*O. mykiss*	Coldwater
McKnight canyon Trib	2002	1	2	*O. mykiss*	Coldwater

*Sp. =Species **Sp Aq Des=Species Aquatic Designation/Thermal Preference



Species	Rancho del Rio	Royal John Bridge	USGS Gage	Lower TNC	Upper TNC	Cooney Campground	Most recent record	Species Aquatic designation
Agosia chrysogaster	■	■	■	■	■	■	2010	Warmwater
Gila nigrescens				■	■	■	2010	Coolwater
Catostomus plebeius	■	■	■	■	■		2009	Coolwater
Rhinicthys osculus				■	■		2009	Coolwater
Oncorhynchus mykiss			■	■	■	■	2009	Coldwater

Solid bar indicates presence of species in the assessment unit

Figure 3. Fish species distribution in the Mimbres River.

The most current assessments of fish present in the Mimbres River show that the introduced rainbow trout is able to persist in the upper reaches, but also can be found in segments of the stream that exceed both acute and chronic temperature criteria for coldwater use. This suggests that refugia from high temperatures may exist in the river, that allow trout to escape or tolerate these temperatures, or that rainbow trout may move in and out of less optimal habitat as a result of numerous pressures including competition, opportunity, or are washed into these areas during high flow events. Other fish species documented in the Mimbres River basin, whether native or introduced, are either coolwater or warmwater species (Sublette and Hatch, 1990; Zaroban et al., 1999; Minckley, 1973; Schiffmiller, pers comm). With the exception of speckled dace and Chihuahua chub, these other species are found in more of the AUs than trout. This indicates that a significant thermal gradient exists supporting both native cool- and warmwater communities, while the streams provide refugia for the introduced coldwater rainbow trout.

Records indicate that rainbow, Gila, and brown trout have been reported for the Mimbres River, with rainbows being the most consistently reported throughout the historical record and in both segments. Brown trout are rarely reported and they, along with Gila trout, have only been reported in the upper reaches of the Mimbres (Cooney and McKnight Canyons, respectively; segment 20.6.4.804 NMAC). Data indicate segment 20.6.4.804 can support a coldwater fishery in its upper reaches; however, the suitability of waters rapidly changes in the lower part of the segment. In order to better understand the potential for success of coldwater fish, size classes of fish in the upper and lower segments of the Mimbres River were evaluated. A variety of size classes within a species (*e.g.*, young-of-the-year and/or juvenile fish in addition to adults present) would likely indicate a successfully reproducing population. The analysis showed that there are at least two distinct habitat zones broadly consistent with the current segment assignments. However, these zones are not consistent with their currently assigned aquatic life uses. The warmwater longfin dace was present in both segments in high numbers, and in size classes indicating a reproducing population tolerant of a wide range of stream temperatures. Coolwater species, Chihuahua chub and Rio Grande sucker, were also found in multiple size classes, however mostly relegated to the upper and lower Mimbres segments, respectively. Conversely, the coldwater rainbow trout was only found in significant numbers and size classes in the upper reaches of the Mimbres. The size class range, thermal preferences, and abundance of fish in the lower segment of the Mimbres River are shown in Figure 4. Only adult rainbow trout (and very few of them) were found in the survey just south of the town of Mimbres.

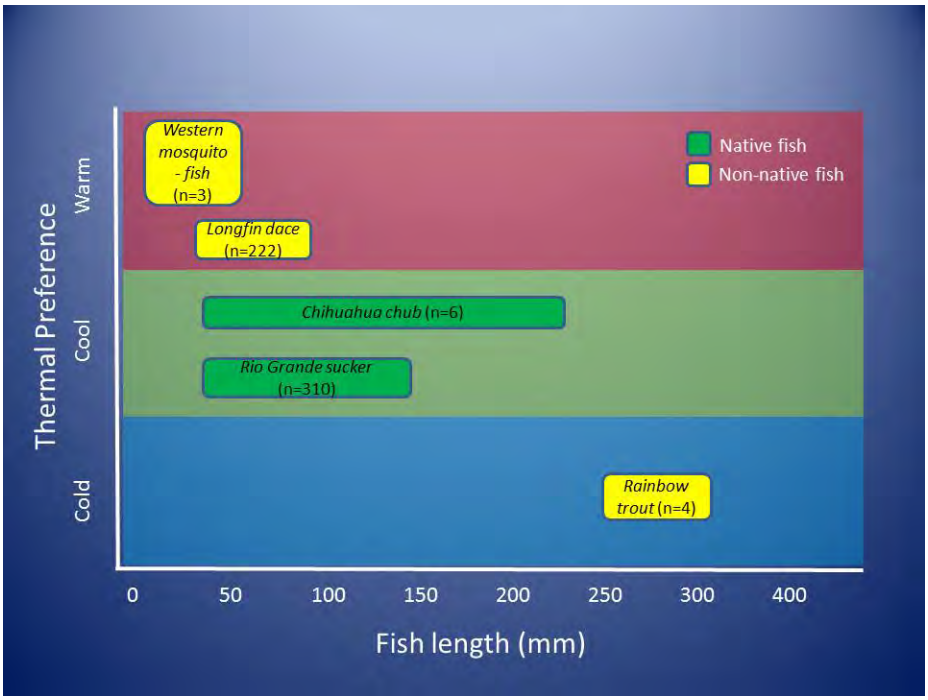


Figure 4. Fish size classes and thermal preferences in the upper part of segment 20.6.4.803. New Mexico Game and Fish 2013 survey. Conclusion: very few Rainbow trout, all adults, were found in this reach. ["n" is the number of fish captured in the survey].

Discussion

From its headwaters to its mouth, the Mimbres River moves from moderately high elevation, deeply incised canyons to the Guzman basin; a drop in elevation spanning approximately 2,000 feet (610 m) and traverses five ecoregions. The variations in the geomorphology along this gradient produce significant changes in the water quality. Once the Mimbres River reaches the valley floor, crossing from the Montane Conifer Forests ecoregion (23c) into the Madrean Lower Mountain Forest ecoregion (23b), its latitude, elevation, meandering course, widening river valley, and well-drained soil and sediments become limiting influences on riparian vegetation and shading, resulting in naturally occurring higher temperatures downstream of the upper Nature Conservancy property.

There are significant natural and geomorphic influences affecting attainable ALUs in the Mimbres River. The natural migration of the river on the valley floor and seasonal flooding has led to the development and subsequent abandonment of associated riparian flora. The fluvial geomorphology can be examined by way of aerial imagery (*e.g.,* Google Earth) and the numerous abandoned meanders suggest that the Mimbres River has an active channel that changes frequently. Although riparian woody species may be well adapted to flood regimes, channel morphological changes because of flooding create riparian abandonment, affecting the Mimbres River and attainable temperature regimes. Soils along the Mimbres are highly porous, drain quickly, and may limit the development of a persistent riparian zone due to a poor water storage potential to support plant growth. Generally, the ecological setting of the mid to lower Mimbres (moderate elevations and latitude) presents challenges in an environment where air temperatures and insolation (solar irradiation) are the most important influences upon water temperature.

Air-water temperature modeling (*e.g.,* SWQB's Air-Water Temperature Correlation for New Mexico streams) suggests that the coldwater aquatic life use is not attainable throughout large sections of the

Mimbres River, even in the highest elevation ecological zone, the Subalpine Forests (23d), where trout populations are currently known to reproduce. It appears that spring-fed cold water, and/or refugia exist in the headwaters/upper portion of the Mimbres River, and pending further fish population studies and thermograph data collections, the current ALU designation is attainable despite occurrences of high air temperatures. It is recommended that a new headwater segment, 20.6.4.807 NMAC, from Cooney Canyon to the headwaters of the Mimbres and all perennial reaches thereto, which would remain HQCW, be established. In addition, the tributary East Fork Mimbres (also known as McKnight creek) should be placed as HQCW in the segment 20.6.4.807 for perennial reaches above the fish barrier. However, as the Mimbres transitions from ecoregion 23c to 23b, the naturally intermittent nature of the upper-to-mid portion of the Mimbres River is prone to flash floods, exacerbated by occurrence of historic disturbances such as fires, indicate that HQCW is not attainable, and that perennial reaches below the Cooney Canyon confluence with the East Fork Mimbres River should be designated as CW ALU is more appropriate. Below the fish barrier, the East Fork Mimbres should also be considered CW aquatic life use to its confluence with the similarly designated segment of the mainstem Mimbres River.

Historically, as now, the Mimbres River has supported a small diversity of fish species, one that has been changed significantly by extirpations and introductions. The Mimbres River downstream of the confluence with McKnight Canyon has supported three warmwater and two coolwater fish species whereas currently, it supports one warmwater, three coolwater and one coldwater species. Modeling of the air-water temperature relationship and the natural conditions of air temperature and the fluvial geomorphology of the Mimbres River demonstrate that the attainable aquatic life use for this section is coolwater below the Upper TNC property (Allie canyon) with a segment-specific 30°C temperature, which is consistent with both historical and current fish communities (Figure 5).

Aquatic Life Use (ALU) Recommendations

Cooney Canyon to the headwaters of the Mimbres River, including all perennial tributaries from the 23d ecoregion (Subalpine Forests), should remain designated as High Quality Coldwater ALU. A new segment extending from Allie Canyon to Cooney canyon (the "Middle Mimbres") should be re-designated as Coldwater ALU, and a segment from Allie Canyon to the mouth re-designated as Coolwater ALU with a segment-specific temperature criterion of 30°C (Figure 5). While survey year 2009 was a lower flow as compared to the 30 year mean (USGS 08477110 MIMBRES RIVER AT MIMBRES, NM), interannual variation in flows, and both the 2003 and 2009 temperature dataset suggest that the 29°C criteria associated with coolwater ALU will not be attainable and a segment-specific criteria of 30°C is more appropriate. Therefore, the following changes to the water quality standards are recommended:

20.6.4.803 CLOSED BASINS - Perennial reaches of the Mimbres River downstream of the confluence with ~~Willow Springs~~ Allie canyon and all perennial reaches of tributaries thereto.

A. Designated Uses: coolwater aquatic life with a segment-specific temperature of 30°C, irrigation, livestock watering, wildlife habitat and primary contact.

20.6.4.804 CLOSED BASINS - Perennial reaches of the Mimbres River upstream of the confluence with ~~Willow Springs~~ Allie canyon upstream to Cooney canyon, and all perennial reaches of East Fork Mimbres (McKnight Canyon) below the fish barrier, and perennial reaches thereto.

A. Designated Uses: irrigation, domestic water supply, coldwater aquatic life, livestock watering, wildlife habitat and primary contact.

20.6.4.807 CLOSED BASINS - Perennial reaches of the Mimbres river upstream of Cooney Canyon and all perennial reaches thereto, including perennial reaches of East Fork Mimbres river (McKnight Canyon) above the fish barrier.

A. Designated Uses: irrigation, domestic water supply, high quality coldwater aquatic life, livestock watering, wildlife habitat and primary contact.

Figure 5. Map of recommended segments and attainable uses for the Mimbres watershed. Ecoregion assignments and attributes are listed in Table 1.

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Appendix A

Representative photos of the Mimbres River and tributaries showing stream course and riparian character.

Figure legends:

Figure A. Royal John Bridge, Segment 20.6.4.803. (upstream view). Note sparse riparian flora, wide meandering channel.

Figure B. USGS Gage site, Segment 20.6.4.803 (upstream view).

Figure C. McKnight (L) confluence with the Mimbres (R), Segment 20.6.4.804, (downstream view). Note wide, open meandering channels and sparse riparian cover.

Figure D. Middle TNC Property, Segment 20.6.4.804, downstream view. Note improved riparian cover, ample channel shading from primary canopy, but poor secondary canopy and riparian flora.

Figure E. Cooney Campground, Segment 20.6.4.804 Note significant channel shading from primary canopy, but poor secondary canopy and riparian flora.

Fig A Royal John Bridge, Segment 20.6.4.803 (upstream view)

Fig B. USGS Gage site, Segment 20.6.4.803 (upstream view)

Fig C. McKnight (L) confluence with the Mimbres (R), Segment 20.6.4.804, downstream view

Fig D. Middle TNC Property, Segment 20.6.4.804, downstream view

Fig E. Cooney Campground, Segment 20.6.4.804

Appendix B

Table 6: A comparison of PRISM predicted air temperatures and SWQB's air temperature from thermographs deployed in 2009 and National Climate Data Center's (NCDC) long term normal temperatures for July.

Station ID	Location	Elevation	July Average Air Temp
20.6.4.803	**Coldwater ALU**	**(ft)**	**°C**
45Mimbre062.7	Rancho del Rio (PRISM)	5,052	24.6
45Mimbre062.8	Rancho del Rio (2009 AIR)	5,052	25.5
Faywood, NM	NCDC 1981-2010 Normals (AIR)	5,190	24.3
45Mimbre085.7	Royal John Bridge (PRISM)	5,453	23.5
20.6.4.804	**High Quality Coldwater ALU**		
45Gallin021.5	Gallinas Creek-Trib (PRISM)	6,667	21.0
Mimbres Ranger Stn	NCDC 1981-2010 Normals	6,240	21.1
45Mimbre109.0	Lower TNC on Mimbres (PRISM)	6,024	22.2
45McKnig011.9	McKnight Canyon (PRISM)	7,152	20.5
45Mimbre127.4	Cooney Campground (PRISM)	6,857	20.5
45Mimbre127.4	Cooney Campground (2009 AIR)	6,857	18.9

STATE OF NEW MEXICO
BEFORE THE WATER QUALITY CONTROL COMMISSION

In the Matter of:	)	
PROPOSED AMENDMENTS TO *STANDARDS FOR INTERSTATE AND INTRASTATE WATERS,* 20.6.4 NMAC	)	**No. WQCC 14-04 (R)**

ORDER FOR HEARING AND APPOINTMENT OF HEARING OFFICER

The New Mexico Water Quality Control Commission ("Commission"), through their duly appointed Chairperson, now Orders that the petition by New Mexico Environment Department, Surface Water Quality Bureau ("Bureau"), as referenced above, be set for public hearing pursuant to NMSA 1978, Section 74-6-1, *et seq.* ("Water Quality Act") and *Guidelines for Water Quality Control Commission Regulation Hearings* (Approved November 10, 1992; Amended June 8 1993) ("*Guidelines*") on March 10, 2015, and continue until completion or as may be Ordered.

The Commission Orders that the Bureau prepare and issue public notice of the hearing in accordance with Section 302 of the Commission's *Guidelines*. The Commission further Orders a Hearing Officer be appointed for the hearing and enter any pre-hearing orders and/or determinations, and recommendations as may be necessary to fully elicit all facts and avoid delay. The Hearing Officer is hereby granted all authority and power of the Commission as provided in Section 104 of the *Guidelines* or as may be otherwise provided by law.

NOW ORDERED, this the ____ day of July 2014, by the Commission and as attested by the Chairperson's signature below.

_____
Michael Vonderheide, Chair
New Mexico Water Quality Control Commission

EXECUTIVE ORDER 2019-003

EXECUTIVE ORDER ON ADDRESSING CLIMATE CHANGE AND ENERGY WASTE PREVENTION

I. Background and Purpose

To further New Mexico's responsibility and opportunity to build a clean energy future for our people, limit adverse climate change impacts that harm our natural and cultural heritage, prevent the waste of New Mexico energy resources and reduce pollution that threatens human health, I hereby issue this Executive Order.

II. Climate Change

WHEREAS, climate change creates new risks and exacerbates existing vulnerabilities in communities across New Mexico and presents growing challenges for human health and safety, quality of life, and the rate of economic growth.

WHEREAS, in a special report authored by the United Nations and World Meteorological Organization Intergovernmental Panel on Climate Change ("IPCC"), it was found that the planet has as little as 12 years to take meaningful climate action in order to limit the increase in global average temperature to 1.5°C – the level necessary to forestall dramatic climatic changes that will further imperil our water supplies.

WHEREAS, carbon dioxide, methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons, and sulfur hexafluoride are recognized as the six greenhouse gases contributing to climate change.

WHEREAS, in 2009, the U.S. Environmental Protection Agency ("EPA") found that these "six greenhouse gases taken in combination endanger both the public health and the public welfare of current and future generations."

WHEREAS, in May 2010, the National Research Council, the operating arm of the National Academy of Sciences, published an assessment which concluded that "climate change is occurring, is caused largely by human activities, and poses significant risks for - and in many cases is already affecting - a broad range of human and natural systems."

WHEREAS, carbon dioxide is emitted through the combustion of fossil fuels for electricity generation and for combustion-engine vehicles.

WHEREAS, the U.S. Energy Information Administration finds that the transportation sector is the largest anthropogenic source of carbon dioxide emissions in the United States.

WHEREAS, methane is a powerful greenhouse gas, 84 times more effective at trapping heat than carbon dioxide over a 20-year timeframe.

WHEREAS, the oil and gas industry is the largest industrial source of methane emissions.

WHEREAS, HFCs are potent greenhouse gases used in the refrigeration, air conditioning, and foam industries, for which alternatives are readily available and approved for use by the EPA.

WHEREAS, governments and global industries have expressed widespread support for a global transition to alternatives to HFCs, as agreed to in the 2016 Kigali Amendment to the Montreal Protocol.

WHEREAS, New Energy Conservation Code templates are developed by the International Code Council every three years. New Mexico adopted and is using the 2009 International Energy Conservation Code (IECC), which puts the state three full code cycles behind. As newer, safer, and more durable building materials, technologies, and techniques become more commonplace, they are voted on and incorporated into the model energy code.

WHEREAS, energy codes create safe, resilient, and habitable structures based on building science and physics principals for heat, air, and moisture transfer—all of which have real and significant impacts on human lives and health; they also can cut utility bills in buildings.

WHEREAS, low- and zero-emission vehicles can provide long-term public health, environmental, and climate benefits.

WHEREAS, federal rollbacks of climate protections, waste prevention, and clean air rules have made it imperative for New Mexico to act to protect our citizens and our economy from the damages of climate change impacts.

WHEREAS, emissions, venting, flaring, and leaks of natural gas by New Mexico's oil and gas industry results in the waste of an important source of domestic energy to the tune of an estimated $244 million per year.

WHEREAS, oil and gas production growth in the New Mexico Permian Basin resulted in an 18% increase in venting and flaring volumes during the first seven months of 2018 compared to 2017 according to official state statistics.

WHEREAS, efforts to reduce methane emissions throughout New Mexico will have a significant climate benefit as well as prevent the waste of energy resources.

WHEREAS, science, innovation, collaboration and compliance efforts can prevent waste, methane emissions and improve air quality while creating jobs for New Mexicans.

III. Directives

NOW, THEREFORE, by the authority vested in me as Governor by the Constitution and laws of the State of New Mexico, IT IS ORDERED:

1. The State of New Mexico will support the 2015 Paris Agreement Goals by joining the U.S. Climate Alliance. New Mexico's objective is to achieve a statewide reduction in greenhouse gas emissions of at least 45% by 2030 as compared to 2005 levels.

2. The Secretary (or designee) of each state agency shall serve on an interagency Climate Change Task Force which is hereby established. The Secretary (or designee) of the Energy, Minerals and Natural Resources Department ("EMNRD") and the Environment Department ("NMED") shall serve as the Co-Chairs, convening meetings, facilitating stakeholder participation, and providing strategic direction for achieving the above goals in developing a New Mexico Climate Strategy document.

3. All State Agencies shall evaluate the impacts of climate change on their programs and operations and integrate climate change mitigation and adaptation practices into their programs and operations. The agencies shall share these actions with the Climate Change Task Force for inclusion into the New Mexico Climate Strategy document.

4. EMNRD and NMED shall work with stakeholders on legislation to increase the New Mexico renewable portfolio standard ("RPS") and increase New Mexico's energy efficiency standards for electric utilities.

5. The Climate Change Task Force shall evaluate policies and regulatory strategies to achieve reductions in greenhouse gas pollution, consistent with the targets set out above, across all categories of emission sources. Such policies and regulatory strategies shall include, but not be limited to, the following:

    a. Adoption of a comprehensive market-based program that sets emission limits to reduce carbon dioxide, and other greenhouse gas pollution across New Mexico;
    b. Adoption of approaches to reduce greenhouse gas and criteria pollutant emissions from light-duty vehicles sold in state, including Low Emission Vehicle (LEV) emission standards and Zero Emission Vehicle (ZEV) performance standards;
    c. Adoption of building codes; and
    d. Collaboration with the Renewable Energy Transmission Authority (RETA) to identify transmission corridors needed to transport the state's renewable electricity to market.

6. EMNRD and NMED shall jointly develop a statewide, enforceable regulatory framework to secure reductions in oil and gas sector methane emissions and to prevent waste from new and existing sources and enact such rules as soon as practicable.

7. EMNRD and NMED shall coordinate as much as possible with the New Mexico State Land Office and federal bureaus and agencies that manage land and natural resources in New Mexico to help advance the priorities identified in this Executive Order.

8. The Climate Change Task Force will develop a *New Mexico Climate Strategy* document with initial recommendations and a status update, where applicable, to the Governor by September 15, 2019.

IV. Disclaimer

Nothing in this Executive Order is intended to create a private right of action to enforce any provision of this Order or to mandate the undertaking of any particular action pursuant to this Order; nor is this Order intended to diminish or expand any existing legal rights or remedies.

THIS ORDER supersedes any other previous orders, proclamations, or directives in conflict. This Executive Order shall take effect immediately and shall remain in effect until such time as it is rescinded by the Governor.

ATTEST:

Maggie Toulouse Oliver

MAGGIE TOULOUSE OLIVER
SECRETARY OF STATE

DONE AT THE EXECUTIVE OFFICE
THIS 29th DAY OF JANUARY, 2019

WITNESS MY HAND AND THE GREAT
SEAL OF THE STATE OF NEW MEXICO

Michelle Lujan Grisham

MICHELLE LUJAN GRISHAM
GOVERNOR

KeyCite Yellow Flag - Negative Treatment
Proposed Legislation

United States Code Annotated
Title 33. Navigation and Navigable Waters (Refs & Annos)
Chapter 26. Water Pollution Prevention and Control (Refs & Annos)
Subchapter I. Research and Related Programs (Refs & Annos)

33 U.S.C.A. § 1251

§ 1251. Congressional declaration of goals and policy

Currentness

(a) Restoration and maintenance of chemical, physical and biological integrity of Nation's waters; national goals for achievement of objective

The objective of this chapter is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. In order to achieve this objective it is hereby declared that, consistent with the provisions of this chapter--

(1) it is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985;

(2) it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983;

(3) it is the national policy that the discharge of toxic pollutants in toxic amounts be

EXHIBIT
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prohibited;

(4) it is the national policy that Federal financial assistance be provided to construct publicly owned waste treatment works;

(5) it is the national policy that areawide waste treatment management planning processes be developed and implemented to assure adequate control of sources of pollutants in each State;

(6) it is the national policy that a major research and demonstration effort be made to develop technology necessary to eliminate the discharge of pollutants into the navigable waters, waters of the contiguous zone, and the oceans; and

(7) it is the national policy that programs for the control of nonpoint sources of pollution be developed and implemented in an expeditious manner so as to enable the goals of this chapter to be met through the control of both point and nonpoint sources of pollution.

(b) Congressional recognition, preservation, and protection of primary responsibilities and rights of States

It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources, and to consult with the Administrator in the exercise of his authority under this chapter. It is the policy of Congress that the States manage the construction grant program under this chapter and implement the permit programs under sections 1342 and 1344 of this title. It is further the policy of the Congress to support and aid research relating to the prevention, reduction, and elimination of pollution and to provide Federal technical services and financial aid to State and interstate agencies and municipalities in connection with the prevention, reduction, and elimination of pollution.

(c) Congressional policy toward Presidential activities with foreign countries

It is further the policy of Congress that the President, acting through the Secretary of State and such national and international organizations as he determines appropriate, shall take such action as may be necessary to insure that to the fullest extent possible all foreign countries shall take meaningful action for the prevention, reduction, and elimination of pollution in their waters and in international waters and for the achievement of goals regarding the elimination of discharge of pollutants and the improvement of water quality to at least the same extent as the United States does under its laws.

(d) Administrator of Environmental Protection Agency to administer chapter

Except as otherwise expressly provided in this chapter, the Administrator of the Environmental Protection Agency (hereinafter in this chapter called "Administrator") shall administer this chapter.

(e) Public participation in development, revision, and enforcement of any regulation, etc.

Public participation in the development, revision, and enforcement of any regulation, standard, effluent limitation, plan, or program established by the Administrator or any State under this chapter shall be provided for, encouraged, and assisted by the Administrator and the States. The Administrator, in cooperation with the States, shall develop and publish regulations specifying minimum guidelines for public participation in such processes.

(f) Procedures utilized for implementing chapter

It is the national policy that to the maximum extent possible the procedures utilized for implementing this chapter shall encourage the drastic minimization of paperwork and interagency decision procedures, and the best use of available manpower and funds, so as to prevent needless duplication and unnecessary delays at all levels of government.

(g) Authority of States over water

It is the policy of Congress that the authority of each State to allocate quantities of water within its jurisdiction shall not be superseded, abrogated or otherwise impaired by this chapter. It is the further policy of Congress that nothing in this chapter shall be construed to supersede or abrogate rights to quantities of water which have been established by any State. Federal agencies shall co-operate with State and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources.

CREDIT(S)

(June 30, 1948, c. 758, Title I, § 101, as added Pub.L. 92-500, § 2, Oct. 18, 1972, 86 Stat. 816; amended Pub.L. 95-217, §§ 5(a), 26(b), Dec. 27, 1977, 91 Stat. 1567, 1575; Pub.L. 100-4, Title III, § 316(b), Feb. 4, 1987, 101 Stat. 60.)

EXECUTIVE ORDERS

EXECUTIVE ORDER NO. 11548

Ex. Ord. No. 11548, July 20, 1970, 35 F.R. 11677, which related to the delegation of Presidential functions, was superseded by Ex. Ord. No. 11735, Aug. 3, 1973, 38 F.R. 21243, set out as a note under section 1321 of this title.

EXECUTIVE ORDER NO. 11742

<Oct. 23, 1973, 38 F.R. 29457>

Delegation of Functions to Secretary of State Respecting Negotiation of International Agreements Relating to Enhancement of Environment

Under and by virtue of the authority vested in me by section 301 of title 3 of the United States Code and as President of the United States, I hereby authorize and empower the Secretary of State, in coordination with the Council on Environmental Quality, the Environmental Protection Agency, and other appropriate Federal agencies, to perform, without the approval, ratification, or other action of the President, the functions vested in the President by Section 7 of the Federal Water Pollution Control Act Amendments of 1972 (Public Law 92-500; 86 Stat. 898) with respect to international agreements relating to the enhancement of the environment.

RICHARD NIXON.

Notes of Decisions (140)

33 U.S.C.A. § 1251, 33 USCA § 1251
Current through PL 117-8 with the exception of PL 116-283. Incorporation of changes from PL 116-283 are in progress. Some statute sections may be more current, see credits for details.

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 131. Water Quality Standards (Refs & Annos)
Subpart A. General Provisions

40 C.F.R. § 131.6

§ 131.6 Minimum requirements for water quality standards submission.

Currentness

The following elements must be included in each State's water quality standards submitted to EPA for review:

(a) Use designations consistent with the provisions of sections 101(a)(2) and 303(c)(2) of the Act.

(b) Methods used and analyses conducted to support water quality standards revisions.

(c) Water quality criteria sufficient to protect the designated uses.

(d) An antidegradation policy consistent with § 131.12.

(e) Certification by the State Attorney General or other appropriate legal authority within the State that the water quality standards were duly adopted pursuant to State law.

(f) General information which will aid the Agency in determining the adequacy of the scientific basis of the standards which do not include the uses specified in section 101(a)(2) of the Act as well as information on general policies applicable to State standards which may affect their application and implementation.

SOURCE: 48 FR 51405, Nov. 8, 1983; 57 FR 60910, Dec. 22, 1992, unless otherwise noted.

AUTHORITY: 33 U.S.C. 1251 et seq.

Notes of Decisions (48)

Current through April 23, 2021; 86 FR 21666.

WQCC-APPROVED

2020-2022 State of New Mexico Clean Water Act §303(d)/§305(b) Integrated Report

December 8, 2020

Prepared by:
New Mexico Environment Department
Surface Water Quality Bureau
1190 St. Francis Drive
Santa Fe, New Mexico 87505
https://www.env.nm.gov/surface-water-quality/

Executive Summary

Purpose of the 2020-2022 CWA §303(d)/ §305(b) Integrated Report

The protection of water quality in New Mexico is vitally important to the health and well-being of all New Mexicans and the aquatic life and wildlife that inhabit its waters. New Mexico uses a variety of mechanisms, including state, federal, and local programs, to protect and restore the quality of its surface and ground waters. The basic underpinnings of surface water protection as provided in the federal Clean Water Act (CWA) and the New Mexico Water Quality Act (WQA) are found in the State of New Mexico Standards for Interstate and Intrastate Surface Waters [20.6.4 NMAC]. Water quality standards are comprised of designated uses for surface waters of the state, associated water quality criteria necessary to protect these uses, and an antidegradation policy. Designated uses in New Mexico include aquatic life, fish culture, primary and secondary contact (including cultural, religious or ceremonial purposes), public water supply, industrial water supply, domestic water supply, irrigation, livestock watering, and wildlife habitat. To protect these uses and fulfill the requirements set forth in the law, coordinated programs have been developed to monitor, assess, protect, and restore surface water quality throughout New Mexico.

The process of addressing impairments begins with the identification and reporting of impaired waterbodies (i.e., waterbodies not attaining their designated uses). This report, the State of New Mexico CWA §303(d)/ §305(b) Integrated Report (IR), is designed to fulfill this need as well as to satisfy the statutory requirements of §303(d), §305(b), and §314 of the CWA. The IR includes information on surface water quality and water pollution control programs in New Mexico and describes the relative condition of water quality in New Mexico to the United States Environmental Protection Agency (EPA), United States Congress, and stakeholders. The IR is prepared by the New Mexico Environment Department (NMED) Surface Water Quality Bureau (SWQB) with input from several other NMED bureaus and programs and is approved by the New Mexico Water Quality Control Commission (NMWQCC). Once approved, the IR becomes a component of a state's Water Quality Management Plan and Continuing Planning Process (WQMP/CPP, NMWQCC 2020).

Specific Focus of the 2020-2022 CWA §303(d)/ §305(b) Integrated Report

The Upper Rio Grande and San Juan River watersheds were surveyed by the SWQB in 2017-2018 and hence are the primary focus of revised or retained assessment conclusions this listing cycle. Additional focus areas based on submitted or acquired datasets include Sandia Canyon on the Pajarito Plateau, Upper Pecos River watershed streams sampled by citizen monitoring groups, the middle Rio Grande from Isleta Pueblo to Angostura, and the Rio Grande near the Buckman Direct Diversion near Santa Fe. The assessment conclusions based on data from previous rotational surveys and previously submitted outside data in non-focus areas are typically carried over to the next list until more current data are available to assess, unless, for example, a water quality standard change necessitates a re-assessment. For this assessment cycle, the top causes of impairment remained the same: temperature, nutrient/eutrophication, and *E. coli* are the three most common causes of river and stream water quality impairment in New Mexico and mercury in fish tissue, PCBs in fish tissue, and temperature are the three most common causes of water quality impairment in lakes and reservoirs.

During development of the IR, impaired waterbodies are further evaluated to determine if changes to the standard may be appropriate, whether more data collection is necessary to confirm the impairment, or whether a total maximum daily load (TMDL) or alternative water quality improvement plan should be

scheduled for development. TMDLs and other planning documents provide information on the probable source(s) of the water quality impairment which is used to determine the best approach to improve water quality. Field observations, available geographic information system (GIS) layers and land use imagery, and both stakeholder and staff watershed knowledge are combined to develop draft Probable Source lists which are finalized in TMDL documents and summarized in the IR. The vast majority of surface water quality impairments identified in New Mexico are due to nonpoint sources of water pollution. The top ten probable sources in New Mexico's streams and rivers include agriculture/grazing, drought-related impacts, flow alteration/diversion, loss of riparian habitat, on-site treatment systems, road/bridge runoff, recreation, streambank modification, waterfowl, and wildlife. Additional data and resources are needed to substantiate probable sources.

The EPA recommends and the SWQB has prepared the 2020-2022 IR consistent with previous guidance memorandums, including EPA's significant 2006 IR Guidance supplemented by subsequent memorandums typically released for each listing cycle (EPA 2005, 2017a). The 2018 IR cycle started a new approach to reporting that is intended to reduce reporting burden to states, tribes, and territories. Starting with EPA's process improvement event in 2015 (which the SWQB was invited to participate in as one of a handful of states), EPA has worked with states, tribes, and territories to streamline the IR reporting process through updating the system for recording IR data, namely the Assessment and Total Maximum Daily Load Tracking and Implementation System (ATTAINS). The new ATTAINS provided an opportunity for New Mexico to streamline the narrative portion of the IR. Accordingly, the main body of the IR has been significantly re-organized and shortened, as compared with pre-2018 IRs, to better describe New Mexico's current water quality framework and focus on required IR elements that are not reported electronically via ATTAINS. The re-design is also intended to make the IR a more user-friendly document by providing additional hyperlinks to additional information should the user want to learn more about specific programs or restoration activities.

There are many challenges in meeting the objectives of the CWA and the WQA, namely climate change, stormwater management, the 2020 Navigable Waters Protection Rule, watershed management, wildfire, nutrient reductions strategies, and inadequate funding to identify and address water quality issues in New Mexico.

A summary of the top impairment sources as documented in approved TMDLs for New Mexico's rivers and streams is presented in Figure 11. The SQUID-generated report that was used to generate the below figure is included in Appendix B. Standard EPA source categories included in SQUID were used to label the graphic. See Appendix B for specific values and subcategory information. In most instances, more than a single probable source contributes to water quality impairment. The total mileage values reported are summations of AU mileages for all AU-impairment pairs assigned to each probable source. Since the State has not yet written any lake or reservoir TMDLS, a probable sources summary is not available for this waterbody type but it is assumed to be similar.

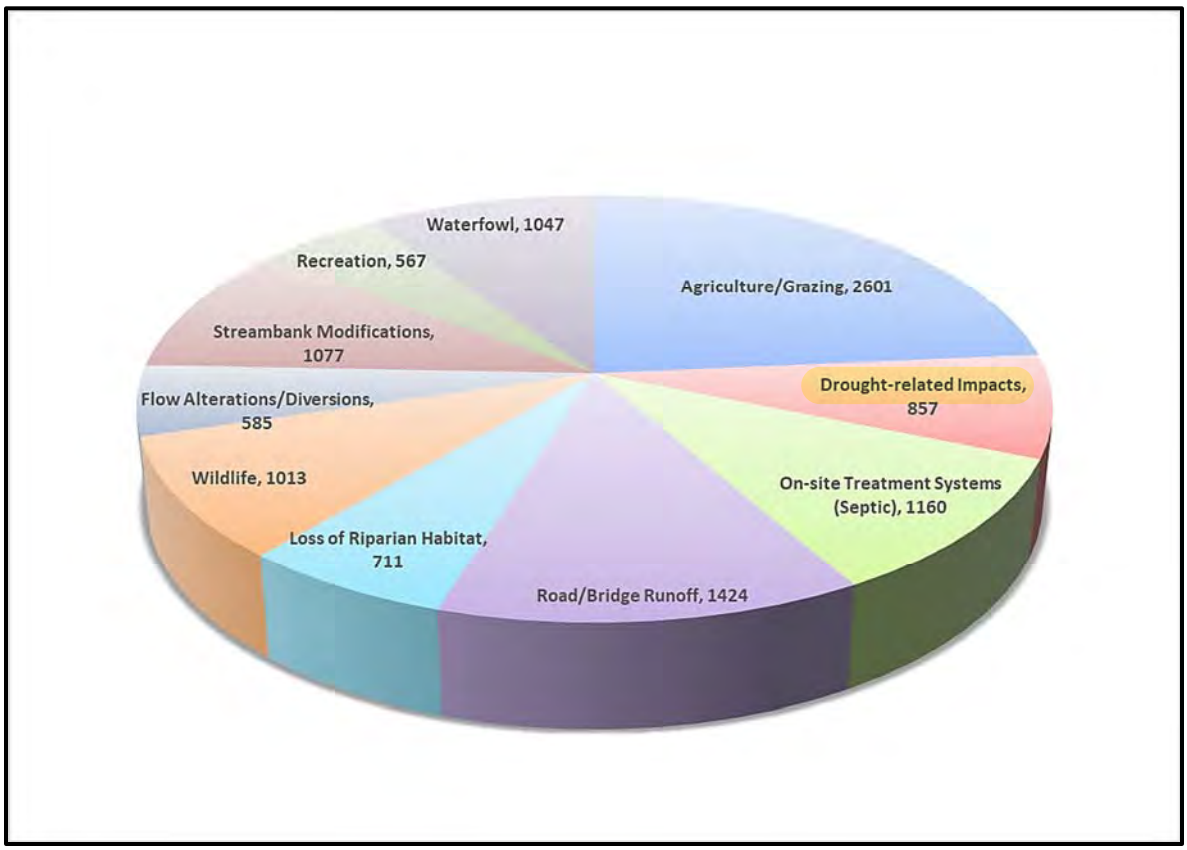

Figure 11. Top Probable Sources of Surface Water Impairment in Rivers/Streams as reported in approved TMDLs (total AU-impairment pair mileage shown)

As seen in the summary graphic, the majority of water quality impairments identified in New Mexico's streams and rivers continues to be due to nonpoint sources (NPS) of water pollution. NPS pollution can be directly related to land use practices on a broad geographic scale and is generally caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up natural and human-caused pollutants, which are deposited into rivers/streams, lake/reservoirs, wetlands, and groundwater.

C. Special State Surface Water Concerns and Recommendations

Agencies and other stakeholders that implement New Mexico's water management programs work continuously to protect surface water quality. However, there are still many challenges in meeting the objectives of the CWA and the WQA. Below are significant surface water quality issues in New Mexico.

Climate Change

The impact of climate change on the state's water resources should be acknowledged because the science shows that these changes will lead to further problems and uncertainties. Droughts are predicted to increase in both frequency and severity in many regions of the world, including the southwestern U.S., due to climate change. In general, droughts and the immediate recovery period have substantial water quality effects on the waterbody and its watershed. For example, decreases in stream flow typically increase pollutant concentrations due to evaporation and less dilution. Other water quality impacts associated with climate change and drought include higher water temperatures, enhanced algal production, toxic algal blooms, and lower dissolved oxygen levels, all of which are stressors to aquatic life. As temperature and precipitation patterns undergo extreme cycles, more frequent and more powerful storms will increase pollutant runoff from the watershed, physically modify and erode riparian habitat, and disrupt biological communities that depend on these habitats. In addition, shifting temperature and precipitation patterns affect vegetation composition and density and increase the propensity for wildfire in non-fire adapted ecosystems.

As waters become stressed by climate change, drought, wildfires, overuse, and groundwater mining, many perennial and intermittent streams and springs will fade. Currently, many perennial "rivers" and "tributaries" in New Mexico contain non-perennial sections. As a result of climate change, these "perennial" waters will likely diminish and the need for clean water will strain these systems even further.

To address some of these concerns, in 2019 Governor Lujan Grisham signed executive order 2019-003 on Addressing Climate Change and Energy Waste Prevention. Executive order 2019-003 directs all State agencies to evaluate the impacts of climate change on their programs and operations and integrate climate change mitigation and adaptation practices into their programs and operations. The IR ties in directly with various initiatives for resource management in the State of New Mexico, including executive order 2019-003. Water quality challenges identified in this report are important to address as improved watershed health is our most effective tool in increasing waterbody and watershed resilience to climate change.

Stormwater Management

Controlling stormwater runoff and its impact is a serious issue facing communities across New Mexico. Urban and highway stormwater runoff is rainfall or snowmelt that runs off the ground or impervious surfaces such as buildings, roads, and parking lots, and drains into natural or man-made drainage systems. In most cases, it drains directly into streams, river, lakes, or wetlands without receiving any treatment to remove pollutants. Because of this, stormwater is a leading cause of water pollution.

Changes in land use have a major effect on both the quantity and quality of stormwater runoff. Urbanization, if not properly planned and managed, can dramatically alter the natural hydrology of

an area because it increases impervious cover, decreases the amount of rainwater that can naturally infiltrate into the soil, and consequently increases the volume and rate of stormwater runoff. Stormwater runoff also typically contains elevated concentrations of a variety of constituents that exceed water quality standards (e.g., copper, lead, and zinc; polyaromatic hydrocarbons (PAHs) and pesticides; oil and grease; nutrients (nitrogen and phosphorus); sediment; and E. coli bacteria). Untreated stormwater entering our waterways can kill aquatic life and result in the contamination of fish tissue and drinking water supplies; prohibit or limit swimming, fishing or boating; present dangers to public health and safety; and increase the frequency and magnitude of flooding.

Polluted stormwater runoff also is commonly transported through municipal separate storm sewer systems (MS4s) in urbanized areas to local waterbodies. To prevent harmful pollutants from being washed or dumped into MS4s, certain operators are required to obtain National Pollutant Discharge Elimination System (NPDES) permits and develop stormwater management programs (SWMPs). The SWMP describes the stormwater control practices that will be implemented consistent with permit requirements to minimize the discharge of pollutants from the urbanized area. Furthermore, effective water quality protection requires the "treatment" of stormwater through the use of various preventive and control measures (e.g., best management practices, low impact development, structural controls) to reduce the impact of impervious surfaces and minimize increases in stormwater runoff.

The EPA's "Procedures for Implementing NPDES Permits in New Mexico – NMIP"[24] establishes procedures to effectively incorporate state water quality standards and TMDLs into NPDES permits. EPA Region 6 is the NPDES permitting authority in New Mexico. As such, EPA Region 6 uses the NMIP to explain NPDES permitting decisions in New Mexico. The EPA developed the NMIP in coordination with the NMED SWQB. Specific measures to ensure permitting effectiveness and appropriate implementation of New Mexico's water quality standards and TMDLs are contained in the NMIP.

Navigable Waters Protection Rule and "Waters of the U.S."

In 2019, the EPA and the U.S. Army Corps of Engineers proposed the Navigable Waters Protection Rule[25] to define "waters of the U.S." and delineate which waters are protected under the federal CWA. The rule was finalized in April 2020 and went into effect on June 22, 2020. The new rule interprets the term "waters of the U.S." to encompass the following four categories of waters:

1. Territorial seas and traditional navigable waters;
2. Perennial and intermittent tributaries to territorial seas and navigable waters;
3. Certain lakes, ponds and impoundments of jurisdictional waters; and
4. Wetlands adjacent to other jurisdictional waters.

The new rule identifies twelve categories that are not "waters of the U.S." and therefore, not federally regulated or protected under the CWA, including ephemeral features that flow only in response to rainfall, groundwater, wetlands not adjacent to a jurisdictional water, many farm and roadside ditches, certain artificial lakes and ponds, and waste treatment systems.

[24] https://www.epa.gov/tx/procedures-implementing-national-pollutant-discharge-elimination-system-permits-new-mexico-nmip
[25] https://web.epa.gov/nwpr

Under the new rule, at least 89 percent of the state's rivers and streams and approximately 40 percent of the state's wetlands lose federal regulation and protection from pollution. New Mexico is one of three states in the U.S., and the only state in the arid southwest, that does not have authority (aka "delegation") from the EPA to administer and implement the NPDES program under Section 402 of the CWA. The NPDES program regulates facilities that discharge pollutants into "waters of the U.S." and includes permit issuance, compliance, and enforcement activities.

This federal rollback of environmental protections for streams and wetlands will put more burden on the State's water quality management agencies, especially the NMED, to ensure continued protection of surface waters of the state and adequate resources to maintain and improve water quality. Without a state permitting program to authorize discharges to surface waters of the state, including waters of the U.S., the NMED is unable to fill the regulatory gap created by the Navigable Waters Protection Rule.

Currently, the NMED is actively investigating available options. This includes conducting a NPDES gap analysis that (1) evaluates statutory, regulatory, and programmatic gaps associated with potential pursuit of NPDES program authorization for the State of New Mexico, and (2) identifies actions necessary to eliminate the gap and assume authority over the program.

Watershed Management and Water Quality

Interagency collaboration has always played a significant role in managing watersheds on public lands within New Mexico. There are many federal and state agencies with varying missions and priorities for utilizing and protecting New Mexico's natural resources. In part, these activities include habitat restoration, water quality management, water rights management, mining, grazing, silviculture, conservation management, wildlife management, outdoor recreation, hunting, and fishing. This IR, as well as the WQMP/CPP, identifies some of those entities the State engages with to ensure continued water quality protection for the State of New Mexico.

Wildfires

New Mexico has experienced a growing number of wildfires with increasing size and severity. Wildfires can produce significant watershed changes that may impact water quality, fish and other aquatic organisms, drinking water supplies and wastewater treatment systems. The primary water quality concerns after a wildfire are: (1) the introduction of sediment and debris into the surface waters; (2) the increase of nitrate and other plant nutrients from burned vegetation; (3) the introduction of radionuclides and heavy metals from ash, soils, and geologic sources; and (4) the introduction of fire retardant chemicals into waterbodies. The magnitude of these effects is largely dependent on the size, intensity, and severity of the fire, and on the condition (e.g., healthy or poor) of the watershed at the time of burning.

A watershed may take decades to completely recover from the effects of a wildfire, during which time the waters may exceed WQS for one or more pollutants. Assessing the water quality of an area after a wildfire can be challenging as it may be difficult to determine the cause of any impairments and the time at which fire-caused conditions are no longer influencing the watershed. Whether natural or human-caused, with the increasing frequency and magnitude of wildfires in response to drought and climate change, a standard approach for monitoring, assessing, and listing wildfire affected areas needs to be developed.

Nutrient Reduction Strategy

The EPA, through its National Water Program Guidance, continues to place a high priority on states addressing nutrient pollution and identifying nutrient-impaired waters through adoption of numeric water quality criteria for nitrogen and phosphorous in our nation's waters, although the EPA has allowed appropriate flexibility to states to make incremental improvements to address excess nutrients through other measures (Stoner 2011). As documented in the *New Mexico Nutrient Reduction Strategy* (NMED/SWQB 2014), New Mexico is currently not pursuing adoption of numeric nutrient criteria. Instead, New Mexico is pursuing continued refinement of numeric thresholds for our narrative criteria and associated listing methodologies. Specific accomplishments this listing cycle include:

- Incorporation of the collaborative EPA's Nutrient Scientific Technical Exchange Partnership and Support (N-STEPS) project (Jessup et. al 2015) findings to refine numeric nutrient threshold values in New Mexico's listing methodology for wadeable, perennial streams;
- Continued protection of water-quality limited segments in accordance with both state (20.6.4.8 NMAC) and federal (40 C.F.R. § 131.12) antidegradation policies and implementation procedures to ensure that Tier 1 waters (i.e., waters identified as "impaired") are not further degraded and that NPDES nutrient effluent limitations, at a minimum, protect existing instream uses;
- Continued improvements to nutrient TMDLs that recognize the nutrient threshold concentrations necessary to protect designated aquatic life uses while developing approaches to implement waste load allocations and load reductions that are achievable while neither over- nor under-protective; and
- Adoption of a Nutrient Temporary Standard for the City of Raton Wastewater Treatment Plant pursuant to 20.6.4.10.F NMAC to encourage incremental improvements in water quality and establish a clear path to compliance. This proposal considered the existing facility design as well as local economic and social factors. Both the NMWQCC and the EPA approved this temporary standard in 2020. Additional temporary standard demonstrations are under consideration.

Adequate Funding of Water Quality Programs

Adequate funding to protect all of New Mexico's surface water resources remains a perennial challenge. This concern is discussed in the below Financial Resource Analysis section.

2020-2022
State of New Mexico
Clean Water Act
§303(d)/§305(b)
Integrated Report

Appendix B

Designated Use Attainment Status, Cause, and Probable Source Summary Tables

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Table B-3: Cause Summary for Stream/River Water Quality Impairments

Cause Name (GROUP CAUSE NAME in BOLD)	*Total Size (miles)*
AMMONIA	**59.44**
Ammonia, Total	59.44
CAUSE UNKNOWN - IMPAIRED BIOTA	**128**
Benthic Macroinvertebrates	128
FISH CONSUMPTION ADVISORY	**109.24**
DDT - Fish Consumption Advisory	109.24
HYDROLOGIC ALTERATION	**255.38**
Flow Regime Modification	255.38
MERCURY	**240.26**
Mercury - Fish Consumption Advisory	94.79
Mercury, Total	145.47
METALS (OTHER THAN MERCURY)	**1138.42**
Aluminum, Total Recoverable	579.44
Arsenic, Dissolved	37.34
Cadmium, Dissolved	14.89
Copper, Dissolved	58.52
Lead, Dissolved	34.29
Sedimentation/Siltation	342.59
Selenium, Total Recoverable	69.26
Silver, Dissolved	2.09
NUTRIENTS	**1262.09**
Nutrients	1231.85
Phosphorus, Total	30.24
ORGANIC ENRICHMENT/OXYGEN DEPLETION	**288.5**
Dissolved oxygen	288.5
PATHOGENS	**1181.81**
E. coli	1181.81
PH/ACIDITY/CAUSTIC CONDITIONS	**35.01**
pH	35.01
POLYCHLORINATED BIPHENYLS (PCBS)	**308.61**
PCBS - Fish Consumption Advisory	88.86
Polychlorinated Biphenyls (PCBs)	219.75
RADIATION	**150.31**
Gross Alpha, Adjusted	130.94
Radium	11.6
Uranium, Dissolved	7.77

Cause Name (GROUP CAUSE NAME in BOLD)	*Total Size (miles)*
SALINITY/TOTAL DISSOLVED SOLIDS/CHLORIDES/SULFATES	**334.93**
Specific Conductance	261.51
Sulfate	36.71
Total Dissolved Solids (TDS)	36.71
TEMPERATURE	**2311.27**
Temperature	2311.27
TOXIC INORGANICS	**45.95**
Boron, Dissolved	23.3
Cyanide, Total Recoverable	22.65
TURBIDITY	**793**
Turbidity	793

Table B-4: Cause Summary for Lake/Reservoir Water Quality Impairments

Cause Name (GROUP CAUSE NAME in BOLD)	*Total Size (acres)*
FISH CONSUMPTION ADVISORY	**1736.82**
DDT - Fish Consumption Advisory	1736.82
MERCURY	**51312.38**
Mercury - Fish Consumption Advisory	51312.38
METALS (OTHER THAN MERCURY)	**325.93**
Aluminum, Total Recoverable	92.95
Arsenic, Dissolved	232.98
NUTRIENTS	**8017.37**
Nutrients	8017.37
ORGANIC ENRICHMENT/OXYGEN DEPLETION	**3.82**
Dissolved oxygen	3.82
PH/ACIDITY/CAUSTIC CONDITIONS	**325.35**
pH	325.35
POLYCHLORINATED BIPHENYLS (PCBS)	**21094.82**
PCBS - Fish Consumption Advisory	21094.82
TEMPERATURE	**17610.59**
Temperature	17610.59

Table B-5: Probable Source Summary for Stream/River Water Quality Impairments*

Probable Source Name (GROUP SOURCE NAME in BOLD)	*Total Size (miles)*
AGRICULTURE	**4079.79**
Animal Feeding Operations (Nps)	88.78
Animal Shows And Racetracks	7.35
Confined Animal Feeding Operations - Cafos (Point Source)	91.68
Crop Production (Dry Land)	384.49
Crop Production (Irrigated)	560.4
Livestock (Grazing or Feeding Operations)	346
Rangeland Grazing	2601.09
CONSTRUCTION	**235.35**
Road/Bridge/Infrastructure Construction	56.91
Site Clearance (New Development or Infill)	178.44
HABITAT ALTERATIONS (NOT DIRECTLY RELATED TO HYDROMODIFICATION)	**921.11**
Habitat Modification	209.73
Loss of Riparian Habitat	711.38
HYDROLOGIC ALTERATION	**3229.01**
Baseflow Depletion	122.24
Channelization	786.89
Dam or Impoundment	556.83
Dredging for Navigation Channels	100.56
Streambank Modifications/Destabilization	1077.39
Water Diversions	585.1
MUNICIPAL DISCHARGES/SEWAGE	**1545.32**
Municipal Point Source Discharges	385.04
On-site Treatment Systems (Septic)	1160.28
NATURAL/WILDLIFE	**3199.45**
Drought-related Impacts	857.17
Natural Sources	281.51
Waterfowl	1047.45
Wildlife Other than Waterfowl	1013.32
OTHER	**1179.99**
Low Water Crossing	588.86
Rural (Residential Areas)	591.13
RECREATION AND TOURISM (NON-BOATING)	**596.92**
Off-road Vehicles	29.5

Probable Source Name (GROUP SOURCE NAME in BOLD)	*Total Size (miles)*
Recreational Pollution Sources	567.42
RESOURCE EXTRACTION	**105.38**
Abandoned Mine Lands	21.31
Mine Tailings	56
Petroleum/Natural Gas Activities	25.94
Surface Mining	2.13
SILVICULTURE (FORESTRY)	**836.92**
Forest Roads (Road Construction and Use)	98.53
Silviculture Activities	276.84
Silviculture Fire Suppression	115.83
Silviculture Harvesting	19.01
Watershed Runoff following Forest Fire	326.71
SPILLS/DUMPING	**272.4**
Illegal Dumps Or Other Inappropriate Waste Disposal	272.4
UNKNOWN	**3531.37**
Source Unknown	3531.37
URBAN-RELATED RUNOFF/STORMWATER	**2565.48**
Impervious Surface/Parking Lot Runoff	579.38
MS4 Discharges	68.51
Municipal (High Density Area)	74.52
Road/Bridge Runoff	1424.36
Urban Runoff/Storm Sewers	96.39
Wastes from Pets	322.32

NOTES:
These tables were generated using SQUID. In most instances, more than a single cause or probable source of water quality impairment in any assessment unit (AU). When AUs have more than one cause or source of impairment, the associated AU Size is tallied in each cause or probable source category

* As reported in EPA-approved TMDLs. New Mexico has not yet written any lake TMDLS, hence there is no probable source summary to present for this water type.

COMPREHENSIVE ASSESSMENT AND LISTING METHODOLOGY (CALM):

PROCEDURES FOR ASSESSING WATER QUALITY STANDARDS ATTAINMENT FOR THE STATE OF NEW MEXICO CWA §303(d) /§305(b) INTEGRATED REPORT

NEW MEXICO ENVIRONMENT DEPARTMENT
SURFACE WATER QUALITY BUREAU

SEPTEMBER 3, 2019

The magnitude of the effects of fire on water quality is primarily driven by fire severity (how much of the fuel is consumed) and fire intensity (how hot the fire burned) coupled with subsequent seasonal weather events (e.g., monsoon rainfall). In other words, the more severe the fire, the greater the amount of fuel consumed, the more nutrients released, and the more susceptible the watershed is to erosion of soil and nutrients into the stream, which could negatively impact water quality. In addition, fire intensity affects the formation of hydrophobic soils that repel water and increase the probability of storm water runoff in the watershed. In New Mexico, severe fires most commonly occur on forested lands managed by the U.S. Forest Service (USFS). They have a special taskforce known as the Burned Area Emergency Response (BAER) Team who are responsible for undertaking rapid post-fire assessments. BAER is an emergency program whose purpose is to identify potential threats to life, property and infrastructure, along with potential threats to water quality and recreational resources, wildlife, vegetation, fisheries, and cultural resources.

In New Mexico, wildfires have become more frequent in recent years. In addition, some have occurred mid-way through the SWQB's rotational watershed surveys, making it impossible to continue monitoring impacted AUs that particular survey year due to unsafe conditions, restricted access, or severe flooding. If the planned sampling in a particular AU was less than 50% complete based on the Field Sampling Plan (FSP), this AU will be noted as "Not Assessed" and scheduled for additional data collection as resources, access, and recovery allow. These additional data will be collated with data from the original sampling year and assessed for the subsequent draft Integrated List.

Data collected during or immediately after fires, floods, extreme drought, or other catastrophic events will generally not be used to make attainment decisions if the data are not representative of conditions prior to the event or new stable conditions. When determining if an event is considered substantial enough to impact or alter the conditions that existed prior to the event, the following factors should be considered: severity of event, size of the affected area, distance of sampling sites from the event, hydrology, geomorphic effects that include soil types and slope. In the absence of data that characterize the conditions before an event, the SWQB will work with all available resources to try and determine those conditions.

Catastrophic events may be considered as a basis for listing in instances where nonattainment of standards arises from an irreversible source of pollutants. The decision regarding whether or not data collected during or after an event are representative of normal conditions, as well as a determination of irreversibility, will be evaluated in collaboration with stakeholders and EPA Region 6, on a case by case basis, as each event is unique with varying severity and longevity of impacts.

2.1.9 Temporary water quality standards

During New Mexico's 2013 triennial review, the WQCC adopted a temporary standards provision at Subsection F of 20.6.4.10 NMAC. Per Paragraph (3), designated use attainment as reported in the IR shall be based on the underlying designated use and applicable criterion, not on any temporary variances. This requirement is consistent with federal regulations[8].

[8] https://www.gpo.gov/fdsys/pkg/FR-2015-08-21/pdf/2015-19821.pdf, page 51036.

REVISION HISTORY:

2014 listing cycle – Pre-public comment: Moved aquatic life use data quality tables from main document to attachment. Added description of SQUID (SWQB's merger of ADB and NMEDAS databases). Added link to new data submittal website. Added information regarding assessment of hardness-dependent metals criteria (specifically, clarified that samples from waters with turbidity greater than 30 NTU must be filtered with 10-µm disposable in-line capsule filters prior to analysis). Minor revision to wording in Figure 3.3 - Generalized flowchart for determining Aquatic Life Use Support. Added protocols for determining nutrient impairment in lakes/reservoirs, and for proposing IR Category 4b. **Post- public comment:** Several minor wording and flowchart clarifications. Revisions to Limited Dataset section and associated addition of Integrated Report subcategories 3A and 3B. Added description of reference site approach to Bioassessment section. Clarified when Category 5C would be assigned. Additional clarification to Figure 3.3, clarified relationship between Data Quality Levels (Attachment A) and aquatic life use attainment decisions when conflicting conclusions from various data types, and indicated SWQB's general data quality level.

2016 listing cycle – Pre-public comment: Moved List of Common Acronyms (previously Appendix A) to the beginning of Main AP. Moved Data Quality Levels (previously Attachment A) to Appendix A. Re-named all appendices Added section regarding wildfire. Clarified assessing when multiple applicable numeric WQC for the same parameter. Added additional clarification to Integrated Report category descriptions. Removed reference to "unclassified" segments to match proposed triennial review clarification.

2018 listing cycle – Pre-public comment: Changed "Assessment Protocol" to "Listing Methodology" throughout. Clarified how to handle data reported below the MRL when data are part of an additive parameter, and when MRL is greater than the applicable WQC. Clarified when J flagged data would be used. Added additional information regarding non-representative data, and when data older than five years would be assessed. Clarified the relationship between temporary standards and the Integrated Report listing process. Added IR Category 5-alt, and expanded IR Category 3 to 3a, 3b, and 3c to better explain handling of n=1. Changed Tables 3.4 to 3.12 from "1 to 10" to "2 to 10" because n=2 is a minimum data requirement for assessment. Updated impairment determination logic in Table 3.8 for consistency with other assessment tables. **Post- public comment:** Clarified that this document was previously referred to as the "Assessment Protocol." Added the following footnote to Tables 3.4 – 3.12 to refer the reader to the appropriate section detailing the handling of limited datasets (n=1) with respect to assessment: "* Less than 2 samples = not assessed. See Section 2.1.4 for details." Clarified how SWQB will assess aluminum in waters with concurrent pH < 6.5 in Section 3.1.2.1. Based on this additional discussion, SWQB will also delist old dissolved aluminum listings for waters with concurrent pH >6.5 because the dissolved aluminum criterion is no longer applicable as stated in this revised section.

2020 listing cycle – Pre-Public Comment: Changed minimum n for assessment to 4; revised the assessment tables in Section 3, as well as IR Category 3B, 3C, and 5C accordingly. Added temporal independence language. Clarified the handling of temporary WQS. Added outlier identification to chronic ALU assessments. Clarifies the handling of concurrent hardness and turbidity data for total recoverable aluminum exceedance determination. Removed intermediate Not Assessed confirmation requirement category for biological assessments. Clarified the "Ea" validation code for bacteria assessments. Clarified how adjusted gross alpha is determined in assessment table footnotes. **Post-Public Comment:** In Section 1.0 clarified that data will be re-assessed if the assessment methodology for a specific parameter has significantly changed, and clarified which data older than five years old will be considered for assessment purposes. In Section 2.1.2, clarified that data from distinct hydrologist events collected within a seven-day period are not considered duplicates. In Section 2.1.4, added addition discussion regarding setting the minimum number of data points needed to assess. In Section 2.1.5, added reference to the critical low flow calculations used to develop point source

discharge requirements. In Section 2.1.6, clarified that available water quality and GIS data may be used to help determine AU breaks. In Section 2.1.8, added a discussion of the handling of surface water highly influenced by groundwater input with respect to assessment, as well as adding "extreme drought" to the list of catastrophic events. In the beginning of Section 3.0, clarified that the entire WQMP update in progress will have a separate public participation process, and that Appendices B through H contains regarding the specific aquatic life uses and stream types covered in these respective appendices. The assessment step regarding to the handling of consecutive-day sampling data in Table 3.4 and Section 3.1.2.2 was removed because it was confusing and these types of data sets have never been, and are not anticipated to be, available for assessment in New Mexico.

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 131. Water Quality Standards (Refs & Annos)
Subpart B. Establishment of Water Quality Standards

40 C.F.R. § 131.12

§ 131.12 Antidegradation policy and implementation methods.

Effective: October 20, 2015

Currentness

(a) The State shall develop and adopt a statewide antidegradation policy. The antidegradation policy shall, at a minimum, be consistent with the following:

(1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

(2) Where the quality of the waters exceeds levels necessary to support the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

(i) The State may identify waters for the protections described in paragraph (a)(2) of this section on a parameter-by-parameter basis or on a water body-by-water body basis. Where the State identifies waters for antidegradation protection on a water body-by-water body basis, the State shall provide an opportunity for public involvement in any decisions about whether the protections described in paragraph (a)(2) of this section will be afforded to a water body, and the factors considered when making those decisions. Further, the State shall not exclude a water body from the protections described in paragraph (a)(2) of this section solely because water quality does not exceed levels necessary to support all of the uses specified in section 101(a)(2) of the Act.

(ii) Before allowing any lowering of high water quality, pursuant to paragraph (a)(2) of this section, the State shall find, after an analysis of alternatives, that such a lowering is necessary to accommodate important economic or social development in the area in which the waters are located. The analysis of alternatives shall evaluate a range of practicable alternatives that would prevent or lessen the degradation associated with the proposed activity. When the analysis of alternatives identifies one or more practicable alternatives, the State shall only find that a lowering is necessary if one such alternative is selected for implementation.

(3) Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

(4) In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with section 316 of the Act.

(b) The State shall develop methods for implementing the antidegradation policy that are, at a minimum, consistent with the State’s policy and with paragraph (a) of this section. The State shall provide an opportunity for public involvement during the development and any subsequent revisions of the implementation methods, and shall make the methods available to the public.

Credits

[80 FR 51048, Aug. 21, 2015]

SOURCE: 48 FR 51405, Nov. 8, 1983; 57 FR 60910, Dec. 22, 1992, unless otherwise noted.

AUTHORITY: 33 U.S.C. 1251 et seq.

Notes of Decisions (82)

Current through April 23, 2021; 86 FR 21666.

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 131. Water Quality Standards (Refs & Annos)
Subpart B. Establishment of Water Quality Standards

40 C.F.R. § 131.10

§ 131.10 Designation of uses.

Effective: October 20, 2015

Currentness

(a) Each State must specify appropriate water uses to be achieved and protected. The classification of the waters of the State must take into consideration the use and value of water for public water supplies, protection and propagation of fish, shellfish and wildlife, recreation in and on the water, agricultural, industrial, and other purposes including navigation. If adopting new or revised designated uses other than the uses specified in section 101(a)(2) of the Act, or removing designated uses, States must submit documentation justifying how their consideration of the use and value of water for those uses listed in this paragraph appropriately supports the State's action. A use attainability analysis may be used to satisfy this requirement. In no case shall a State adopt waste transport or waste assimilation as a designated use for any waters of the United States.

(b) In designating uses of a water body and the appropriate criteria for those uses, the State shall take into consideration the water quality standards of downstream waters and shall ensure that its water quality standards provide for the attainment and maintenance of the water quality standards of downstream waters.

(c) States may adopt sub-categories of a use and set the appropriate criteria to reflect varying needs of such sub-categories of uses, for instance, to differentiate between cold water and warm water fisheries.

(d) At a minimum, uses are deemed attainable if they can be achieved by the imposition of effluent limits required under sections 301(b) and 306 of the Act and cost-effective and reasonable best management practices for nonpoint source control.

(e) [Reserved by 80 FR 51047]

(f) States may adopt seasonal uses as an alternative to reclassifying a water body or segment thereof to uses requiring less stringent water quality criteria. If seasonal uses are adopted, water quality criteria should be adjusted to reflect the seasonal uses, however, such criteria shall not preclude the attainment and maintenance of a more protective use in another season.

(g) States may designate a use, or remove a use that is not an existing use, if the State conducts a use attainability analysis as specified in paragraph (j) of this section that demonstrates attaining the use is not feasible because of one of the six factors in this paragraph. If a State adopts a new or revised water quality standard based on a required use attainability analysis, the State shall also adopt the highest attainable use, as defined in § 131.3(m).

(1) Naturally occurring pollutant concentrations prevent the attainment of the use; or

(2) Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation

requirements to enable uses to be met; or

(3) Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or

(4) Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or

(5) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses; or

(6) Controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact.

(h) States may not remove designated uses if:

(1) They are existing uses, as defined in § 131.3, unless a use requiring more stringent criteria is added; or

(2) Such uses will be attained by implementing effluent limits required under sections 301(b) and 306 of the Act and by implementing cost-effective and reasonable best management practices for nonpoint source control.

(i) Where existing water quality standards specify designated uses less than those which are

presently being attained, the State shall revise its standards to reflect the uses actually being attained.

(j) A State must conduct a use attainability analysis as described in § 131.3(g), and paragraph (g) of this section, whenever:

(1) The State designates for the first time, or has previously designated for a water body, uses that do not include the uses specified in section 101(a)(2) of the Act; or

(2) The State wishes to remove a designated use that is specified in section 101(a)(2) of the Act, to remove a sub-category of such a use, or to designate a sub-category of such a use that requires criteria less stringent than previously applicable.

(k) A State is not required to conduct a use attainability analysis whenever:

(1) The State designates for the first time, or has previously designated for a water body, uses that include the uses specified in section 101(a)(2) of the Act; or

(2) The State designates a sub-category of a use specified in section 101(a)(2) of the Act that requires criteria at least as stringent as previously applicable; or

(3) The State wishes to remove or revise a designated use that is a non–101(a)(2) use. In this instance, as required by paragraph (a) of this section, the State must submit documentation justifying how its consideration of the use and value of water for those uses listed in paragraph (a) appropriately supports the State's action, which may be satisfied through a use attainability analysis.

Credits

[80 FR 51047, Aug. 21, 2015]

SOURCE: 48 FR 51405, Nov. 8, 1983; 57 FR 60910, Dec. 22, 1992, unless otherwise noted.

AUTHORITY: 33 U.S.C. 1251 et seq.

Notes of Decisions (45)

Current through April 23, 2021; 86 FR 21666.

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 131. Water Quality Standards (Refs & Annos)
Subpart A. General Provisions

40 C.F.R. § 131.5

§ 131.5 EPA authority.

Effective: October 20, 2015

Currentness

(a) Under section 303(c) of the Act, EPA is to review and to approve or disapprove State-adopted water quality standards. The review involves a determination of:

(1) Whether the State has adopted designated water uses that are consistent with the requirements of the Clean Water Act;

(2) Whether the State has adopted criteria that protect the designated water uses based on sound scientific rationale consistent with § 131.11;

(3) Whether the State has adopted an antidegradation policy that is consistent with § 131.12, and whether any State adopted antidegradation implementation methods are consistent with § 131.12;

(4) Whether any State adopted WQS variance is consistent with § 131.14;

(5) Whether any State adopted provision authorizing the use of schedules of compliance for water quality-based effluent limits in NPDES permits is consistent with § 131.15;

(6) Whether the State has followed applicable legal procedures for revising or adopting standards;

(7) Whether the State standards which do not include the uses specified in section 101(a)(2) of the Act are based upon appropriate technical and scientific data and analyses, and

(8) Whether the State submission meets the requirements included in § 131.6 of this part and, for Great Lakes States or Great Lakes Tribes (as defined in 40 CFR 132.2) to conform to section 118 of the Act, the requirements of 40 CFR part 132.

(b) If EPA determines that the State's or Tribe's water quality standards are consistent with the factors listed in paragraphs (a)(1) through (8) of this section, EPA approves the standards. EPA must disapprove the State's or Tribe's water quality standards and promulgate Federal standards under section 303(c)(4), and for Great Lakes States or Great Lakes Tribes under section 118(c)(2)(C) of the Act, if State or Tribal adopted standards are not consistent with the factors listed in paragraphs (a)(1) through (8) of this section. EPA may also promulgate a new or revised standard when necessary to meet the requirements of the Act.

(c) Section 401 of the Clean Water Act authorizes EPA to issue certifications pursuant to the requirements of section 401 in any case where a State or interstate agency has no authority for issuing such certifications.

Credits

[56 FR 64894, Dec. 12, 1991; 60 FR 15387, March 23, 1995; 80 FR 51047, Aug. 21, 2015]

SOURCE: 48 FR 51405, Nov. 8, 1983; 57 FR 60910, Dec. 22, 1992, unless otherwise noted.

AUTHORITY: 33 U.S.C. 1251 et seq.

Notes of Decisions (23)

Current through April 23, 2021; 86 FR 21666.

Code of Federal Regulations
Title 40. Protection of Environment
Chapter I. Environmental Protection Agency (Refs & Annos)
Subchapter D. Water Programs
Part 131. Water Quality Standards (Refs & Annos)
Subpart B. Establishment of Water Quality Standards

40 C.F.R. § 131.11

§ 131.11 Criteria.

Effective: October 20, 2015

Currentness

(a) Inclusion of pollutants:

(1) States must adopt those water quality criteria that protect the designated use. Such criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use. For waters with multiple use designations, the criteria shall support the most sensitive use.

(2) Toxic pollutants. States must review water quality data and information on discharges to identify specific water bodies where toxic pollutants may be adversely affecting water quality or the attainment of the designated water use or where the levels of toxic pollutants are at a level to warrant concern and must adopt criteria for such toxic pollutants applicable to the water body sufficient to protect the designated use. Where a State adopts narrative criteria for toxic pollutants to protect designated uses, the State must provide information identifying the method by which the State intends to regulate point source discharges of

toxic pollutants on water quality limited segments based on such narrative criteria. Such information may be included as part of the standards or may be included in documents generated by the State in response to the Water Quality Planning and Management Regulations (40 CFR part 130).

(b) Form of criteria: In establishing criteria, States should:

(1) Establish numerical values based on:

(i) 304(a) Guidance; or

(ii) 304(a) Guidance modified to reflect site-specific conditions; or

(iii) Other scientifically defensible methods;

(2) Establish narrative criteria or criteria based upon biomonitoring methods where numerical criteria cannot be established or to supplement numerical criteria.

Credits

[80 FR 51047, Aug. 21, 2015]

SOURCE: 48 FR 51405, Nov. 8, 1983; 57 FR 60910, Dec. 22, 1992, unless otherwise noted.

AUTHORITY: 33 U.S.C. 1251 et seq.

Notes of Decisions (51)

Current through April 23, 2021; 86 FR 21666.

KeyCite Yellow Flag - Negative Treatment
Proposed Legislation

West's New Mexico Statutes Annotated
Chapter 74. Environmental Improvement
Article 6. Water Quality (Refs & Annos)

N. M. S. A. 1978, § 74-6-4

§ 74-6-4. Duties and powers of commission

Effective: July 1, 2019

Currentness

The commission:

A. may accept and supervise the administration of loans and grants from the federal government and from other sources, public or private, which loans and grants shall not be expended for other than the purposes for which provided;

B. shall adopt a comprehensive water quality management program and develop a continuing planning process;

C. shall not adopt or promulgate a standard or regulation that exceeds a grant of rulemaking authority listed in the statutory section of the Water Quality Act authorizing the standard or regulation;

D. shall adopt water quality standards for surface and ground waters of the state based on credible scientific data and other evidence appropriate under the Water Quality Act. The standards shall include narrative standards and, as appropriate, the designated uses of the waters and the water quality criteria necessary to protect such uses. The standards shall at a

minimum protect the public health or welfare, enhance the quality of water and serve the purposes of the Water Quality Act. In making standards, the commission shall give weight it deems appropriate to all facts and circumstances, including the use and value of the water for water supplies, propagation of fish and wildlife, recreational purposes and agricultural, industrial and other purposes;

E. shall adopt, promulgate and publish regulations to prevent or abate water pollution in the state or in any specific geographic area, aquifer or watershed of the state or in any part thereof, or for any class of waters, and to govern the disposal of septage and sludge and the use of sludge for various beneficial purposes. The regulations governing the disposal of septage and sludge may include the use of tracking and permitting systems or other reasonable means necessary to assure that septage and sludge are designated for disposal in, and arrive at, disposal facilities, other than facilities on the premises where the septage and sludge is generated, for which a permit or other authorization has been issued pursuant to the federal act or the Water Quality Act. Regulations may specify a standard of performance for new sources that reflects the greatest reduction in the concentration of water contaminants that the commission determines to be achievable through application of the best available demonstrated control technology, processes, operating methods or other alternatives, including where practicable a standard permitting no discharge of pollutants. In making regulations, the commission shall give weight it deems appropriate to all relevant facts and circumstances, including:

(1) the character and degree of injury to or interference with health, welfare, environment and property;

(2) the public interest, including the social and economic value of the sources of water contaminants;

(3) the technical practicability and economic reasonableness of reducing or eliminating water contaminants from the sources involved and previous experience with equipment and methods available to control the water contaminants involved;

(4) the successive uses, including domestic, commercial, industrial, pastoral, agricultural, wildlife and recreational uses;

(5) feasibility of a user or a subsequent user treating the water before a subsequent use;

(6) property rights and accustomed uses; and

(7) federal water quality requirements;

F. shall assign responsibility for administering its regulations to constituent agencies so as to assure adequate coverage and prevent duplication of effort. To this end, the commission may make such classification of waters and sources of water contaminants as will facilitate the assignment of administrative responsibilities to constituent agencies. The commission shall also hear and decide disputes between constituent agencies as to jurisdiction concerning any matters within the purpose of the Water Quality Act. In assigning responsibilities to constituent agencies, the commission shall give priority to the primary interests of the constituent agencies. The department of environment shall provide technical services, including certification of permits pursuant to the federal act, and shall maintain a repository of the scientific data required by the Water Quality Act;

G. may enter into or authorize constituent agencies to enter into agreements with the federal government or other state governments for purposes consistent with the Water Quality Act and receive and allocate to constituent agencies funds made available to the commission;

H. may grant an individual variance from any regulation of the commission whenever it is found that compliance with the regulation will impose an unreasonable burden upon any lawful business, occupation or activity. The commission may only grant a variance conditioned upon a person effecting a particular abatement of water pollution within a reasonable period of time. Any variance shall be granted for the period of time specified by the commission. The commission shall adopt regulations specifying the procedure under which variances may be sought, which regulations shall provide for the holding of a public

hearing before any variance may be granted;

I. may adopt regulations to require the filing with it or a constituent agency of proposed plans and specifications for the construction and operation of new sewer systems, treatment works or sewerage systems or extensions, modifications of or additions to new or existing sewer systems, treatment works or sewerage systems. Filing with and approval by the federal housing administration of plans for an extension to an existing or construction of a new sewerage system intended to serve a subdivision solely residential in nature shall be deemed compliance with all provisions of this subsection;

J. may adopt regulations requiring notice to it or a constituent agency of intent to introduce or allow the introduction of water contaminants into waters of the state;

K. shall specify in regulations the measures to be taken to prevent water pollution and to monitor water quality. The commission may adopt regulations for particular industries. The commission shall adopt regulations for the dairy industry and the copper industry. The commission shall consider, in addition to the factors listed in Subsection E of this section, the best available scientific information. The regulations may include variations in requirements based on site-specific factors, such as depth and distance to ground water and geological and hydrological conditions. The constituent agency shall establish an advisory committee composed of persons with knowledge and expertise particular to the industry category and other interested stakeholders to advise the constituent agency on appropriate regulations to be proposed for adoption by the commission. The regulations shall be developed and adopted in accordance with a schedule approved by the commission. The schedule shall incorporate an opportunity for public input and stakeholder negotiations;

L. may adopt regulations establishing pretreatment standards that prohibit or control the introduction into publicly owned sewerage systems of water contaminants that are not susceptible to treatment by the treatment works or that would interfere with the operation of the treatment works;

M. shall not require a permit respecting the use of water in irrigated agriculture, except in the

case of the employment of a specific practice in connection with such irrigation that documentation or actual case history has shown to be hazardous to public health or the environment or for the use of produced water;

N. shall not require a permit for applying less than two hundred fifty gallons per day of private residential gray water originating from a residence for the resident's household gardening, composting or landscape irrigation if:

(1) a constructed gray water distribution system provides for overflow into the sewer system or on-site wastewater treatment and disposal system;

(2) a gray water storage tank is covered to restrict access and to eliminate habitat for mosquitos or other vectors;

(3) a gray water system is sited outside of a floodway;

(4) gray water is vertically separated at least five feet above the ground water table;

(5) gray water pressure piping is clearly identified as a nonpotable water conduit;

(6) gray water is used on the site where it is generated and does not run off the property lines;

(7) gray water is applied in a manner that minimizes the potential for contact with people or domestic pets;

(8) ponding is prohibited, application of gray water is managed to minimize standing water on the surface and to ensure that the hydraulic capacity of the soil is not exceeded;

(9) gray water is not sprayed;

(10) gray water is not discharged to a watercourse; and

(11) gray water use within municipalities or counties complies with all applicable municipal or county ordinances enacted pursuant to Chapter 3, Article 53 NMSA 1978;

O. shall coordinate application procedures and funding cycles for loans and grants from the federal government and from other sources, public or private, with the local government division of the department of finance and administration pursuant to the New Mexico Community Assistance Act;

P. shall adopt regulations to be administered by the department of environment for the discharge, handling, transport, storage, recycling or treatment for the disposition of treated produced water, including disposition in road construction maintenance, roadway ice or dust control or other construction, or in the application of treated produced water to land, for activities unrelated to the exploration, drilling, production, treatment or refinement of oil or gas; and

Q. may adopt regulations to be administered by the department of environment for surface water discharges.

Credits

L. 1967, Ch. 190, § 4; L. 1970, Ch. 64, § 3; L. 1971, Ch. 277, § 51; L. 1973, Ch. 326, § 3; L. 1981, Ch. 347, § 1; L. 1984, Ch. 5, § 13; L. 1993, Ch. 291, § 4; L. 2001, Ch. 240, § 1; L. 2001,

Ch. 281, § 1; L. 2003, Ch. 7, § 2, eff. March 10, 2003; L. 2009, Ch. 194, § 1, eff. June 19, 2009; L. 2019, Ch. 197, § 11, eff. July 1, 2019.

Formerly 1953 Comp., § 75-39-4.

Editors' Notes

REPEAL OF ACT

<For repeal of Act, see § 74-6-17.>

Code of New Mexico Rules Currentness
Title 20. Environmental Protection
Chapter 6. Water Quality
Part 2. Ground and Surface Water Protection (Refs & Annos)

N.M. Admin. Code 20.6.2

20.6.2. GROUND AND SURFACE WATER PROTECTION

20.6.2.1 ISSUING AGENCY: Water Quality Control Commission
[12-1-95; 20.6.2.1 NMAC - Rn, 20 NMAC 6.2.I.1000, 1-15-01]

20.6.2.2 SCOPE: All persons subject to the Water Quality Act, NMSA 1978, Sections 74-6-1 et seq.
[12-1-95; 20.6.2.2 NMAC - Rn, 20 NMAC 6.2.I.1001, 1-15-01]

20.6.2.3 STATUTORY AUTHORITY: Standards and Regulations are adopted by the commission under the authority of the Water Quality Act, NMSA 1978, Sections 74-6-1 through 74-6-17.
[2-18-77, 9-20-82, 12-1-95; 20.6.2.3 NMAC - Rn, 20 NMAC 6.2.I.1002, 1-15-01]

Credits

20.6.2.4 DURATION: Permanent.

[12-1-95; 20.6.2.4 NMAC - Rn, 20 NMAC 6.2.I.1003, 1-15-01]

20.6.2.5 EFFECTIVE DATE: December 1, 1995 unless a later date is cited at the end of a section.
[12-1-95, 11-15-96; 20.6.2.5 NMAC - Rn, 20 NMAC 6.2.I.1004, 1-15-01; A, 1-15-01]

20.6.2.6 OBJECTIVE: The objective of this Part is to implement the Water Quality Act, NMSA 1978, Sections 74-6-1 et seq.
[12-1-95; 20.6.2.6 NMAC - Rn, 20 NMAC 6.2.I.1005, 1-15-01]

. . . .

20.6.2.2100 APPLICABILITY: The requirements of Section 20.6.2.2101 and 20.6.2.2102 NMAC shall not apply to any discharge which is subject to a permit under the National Pollutant Discharge Elimination System of P. L. 92-500; provided that any discharger who is given written notice of National Pollutant Discharge Elimination System permit violation from the Administrator of the Environmental Protection Agency and who has not corrected the violation within thirty days of receipt of said notice shall be subject to Section 20.6.2.2101 and 20.6.2.2102 NMAC until in compliance with the National Pollution Discharge Elimination System permit conditions; provided further that nothing in this Part shall be construed as a deterrent to action under Section 74-6-11 NMSA, 1978.
[8-13-76; 20.6.2.2100 NMAC - Rn, 20 NMAC 6.2.II.2100, 1-15-01]

20.6.2.2101 GENERAL REQUIREMENTS:

A. Except as otherwise provided in Sections 20.6.2.2000 through 20.6.2.2201 NMAC, no person shall cause or allow effluent to discharge to a watercourse if the effluent as indicated by:

(1) any two consecutive daily composite samples;

(2) more than one daily composite sample in any thirty-day period (in which less than ten (10) daily composite samples are examined);

(3) more than ten percent (10%) of the daily composite samples in any thirty-day period (in which ten (10) or more daily composite samples are examined); or

(4) a grab sample collected during flow from an intermittent or infrequent discharge does not conform to the following:

(a) Bio-chemical Oxygen Demand (BOD) Less than 30 mg/l

(b) Chemical Oxygen Demand (COD) Less than 125 mg/l

(c) Settleable Solids Less than 0.5 mg/l

(d) Fecal Coliform Bacteria Less than 500 organisms per 100 ml

(e) pH Between 6.6 and 8.6

B. Upon application, the secretary may eliminate the pH requirement for any effluent source that the secretary determines does not unreasonably degrade the water into which the effluent is discharged.

C. Subsection A of this Section does not apply to the weight of constituents in the water diverted.

D. Samples shall be examined in accordance with the most current edition of Standard Methods for the Examination of Water and Wastewater published by the American Public Health Association or the most current edition of Methods for Chemical Analysis of Water and Wastes published by the Environmental Protection Agency, where applicable.
[4-20-68, 3-14-71, 10-8-71, 8-13-76, 2-20-81, 12-1-95; 20.6.2.2101 NMAC - Rn, 20 NMAC 6.2.II.2101, 1-15-01]

20.6.2.2102 RIO GRANDE BASIN--COMMUNITY SEWERAGE SYSTEMS:

A. No person shall cause or allow effluent from a community sewerage system to discharge to a watercourse in the Rio Grande Basin between the headwaters of Elephant Butte Reservoir and Angostura Diversion Dam as described in Subsection E of this Section if the effluent, as indicated by:

(1) any two consecutive daily composite samples;

(2) more than one daily composite sample in any thirty-day period (in which less than ten (10) daily composite samples are examined);

(3) more than ten percent (10%) of the daily composite samples in any thirty-day period (in which ten (10) or more daily composite samples are examined); or

(4) a grab sample collected during flow from an intermittent or infrequent discharge does not conform to the following:

(a) Bio-chemical Oxygen Demand (BOD) Less than 30 mg/l

(b) Chemical Oxygen Demand (COD) Less than 80 mg/l

(c) Settleable Solids Less than 0.1 mg/l

(d) Fecal Coliform Bacteria Less than 500 organisms per 100 ml

(e) pH Between 6.6 and 8.6

B. Upon application, the secretary may eliminate the pH requirement for any effluent source that the secretary determines does not unreasonably degrade the water into which the effluent is discharged.

C. Subsection A of this Section does not apply to the weight of constituents in the water diverted.

D. Samples shall be examined in accordance with the most current edition of Standard Methods for the Analysis of Water and Wastewater published by the American Public Health Association or the most current edition of Methods for Chemical Analysis of Water and Wastes published by the Environmental Protection Agency, where applicable.

E. The following is a description of the Rio Grande Basin from the headwaters of Elephant Butte Reservoir to Angostura Diversion Dam as used in this Section. Begin at San Marcial USGS gauging station, which is the headwaters of Elephant Butte Reservoir Irrigation Project, thence northwest to U.S. Highway 60, nine miles + west of Magdalena; thence west along the northeast edge of the San Agustin Plains closed basin; thence north along the east side of the north plains closed basin to the Continental Divide; thence northly along the Continental Divide to the community of Regina on State Highway 96; thence southeasterly along the crest of the San Pedro Mountains to Cerro Toledo Peak; thence southwesterly along the Sierra de Los Valles ridge and the Borrego Mesa to Bodega Butte; thence southerly to Angostura Diversion Dam which is the upper reach of the Rio Grande in this basin; thence southeast to the crest and the crest of the Manzano Mountains and the Los Pinos Mountains; thence southerly along the divide that contributes to the Rio Grande to San Marcial gauging station to the point and place of beginning; excluding all waters upstream of Jemez Pueblo which flow into the Jemez River drainage and the Bluewater Lake. Counties included in the basin are:

(1) north portion of Socorro County;

(2) northeast corner of Catron County;

(3) east portion of Valencia County;

(4) west portion of Bernalillo County;

(5) east portion of McKinley County; and

(6) most of Sandoval County.

[3-14-71, 9-3-72, 8-13-76, 2-20-81, 12-1-95; 20.6.2.2102 NMAC - Rn, 20 NMAC 6.2.II.2102, 1-15-01]

. . . .

HISTORY OF 20.6.2 NMAC:

Pre-NMAC History:

Material in this Part was derived from that previously filed with the commission of public records - state records center and archives:

WQC 67-2, Regulations Governing Water Pollution Control in New Mexico, filed 12-5-67, effective 1-4-68

WQC 72-1, Water Quality Control Commission Regulations, filed 8-4-72, effective 9-3-72

WQC 77-1, Amended Water Quality Control Commission Regulations, filed 1-18-77, effective 2-18-77

WQC 81-2, Water Quality Control Commission Regulations, filed 6-2-81, effective 7-2-81

WQC 82-1, Water Quality Control Commission Regulations, filed 8-19-82, effective 9-20-82

History of Repealed Material: [Reserved]

Other History:

20 NMAC 6.2, Water Quality - Ground and Surface Water Protection, filed 10-27-95, effective 12-1-95

20 NMAC 6.2, Water Quality - Ground and Surface Water Protection, filed 10-15-96, effective 11-15-96

20 NMAC 6.2, Water Quality - Ground and Surface Water Protection, filed 11-30-00, effective 1-15-01

20 NMAC 6.2, Water Quality - Ground and Surface Water Protection, filed 9-16-01, effective 12-1-01

20 NMAC 6.2, Water Quality - Ground and Surface Water Protection, filed 8-1-02, effective 9-15-02

20 NMAC 6.2, Water Quality - Ground and Surface Water Protection, filed 11-21-18, effective 12-21-18

Current with all new rules, amendments, and repeals received by March 16, 2021

N.M. Admin. Code 20.6.2, NM ADC 20.6.2

End of Document

STATE OF NEW MEXICO
WATER QUALITY CONTROL COMMISSION

In the Matter of:	)	
	)	
PROPOSED AMENDMENTS TO	)	
STANDARDS FOR INTERSTATE	)	**No. WQCC 14-05 (R)**
AND INTRASTATE WATERS,	)	
20.6.4 NMAC	)	

STATEMENT OF REASONS AND FINAL ORDER

This matter comes before the New Mexico Water Quality Control Commission ("WQCC" or "Commission") upon a petition filed by the New Mexico Environment Department ("NMED" or "Department") proposing amendments to the State of New Mexico's Standards for Interstate and Intrastate Surface Waters ("Standards"), which are codified as Title 20, Chapter 6, Part 4 of the New Mexico Administrative Code (20.6.4 NMAC), commonly referred to as the "Triennial Review."

NMED's Petition to Amend Surface Water Quality Standards ("SWQS") was filed with the Administrator on June 25, 2014. On October 20, 2014, NMED filed an Amended Petition to Revise the SWQS and on September 4, 2015, NMED filed a Notice of Changes to its Petition (together with the originally filed petition, NMED's Petition).

Additionally, in accordance with the Scheduling Order and the Procedural Order issued in this matter on July 10, 2014, on September 30, 2014, Freeport-McMoRan Chino Mines Company ("Chino") filed a petition with the Commission to amend the SWQS. The proposed amendment proposed to add site-specific criteria for copper for certain surface waters located within the Mimbres River Closed Basin (hydrologic unit code HUC8-

20.6.4.12.H is replaced with "Clean Water Act" so that a temporary standard is not limited to inclusion in the National Pollutant Discharge Elimination System ("NPDES") permits issued under CWA Section 402, but may also be included in other CWA permits such as for dredge and fill activities issued under CWA Section 404.

21. Based upon the evidence and argument in the record, the following Statement of Reasons sets forth how the Commission considered and weighed the evidence presented and considered legal arguments in this matter with respect to adoption of changes to the New Mexico's Water Quality Standards at 20.6.4 NMAC.

STATEMENT OF REASONS

After a full deliberation the WQCC hereby submits the following Statement of Reasons in support of their decision:

22. The Department has identified certain typographical, grammar, and formatting errors in the Department's Petition of September 4, 2015. These non-substantive changes have been addressed in the Proposed Final Rule submitted by the Department.

23. The Commission finds that these changes proposed by the Parties to typographical, grammar, and formatting errors in the Department's Petition of September 4, 2015 are reflected in the Commission's Final Rule, attached as **Attachment A**.

24. The Commission finds that these changes to typographical, grammar, and formatting errors are undisputed and herby adopts such changes as reflected in the attached Commission's Final Rule.

and interim revisions, the NMED has clarified the presumption of CWA Section 101(a)(2) uses for all surface water of the state, including those not classified or specifically described in segments under 20.6.4.101 through .899 NMAC. SWQB Exhibit 13.

IX. Changes to 20.6.4.101 to .317 NMAC

91. The Department proposed changes in certain sections of 20.6.4.101 through .317 NMAC to correct minor grammatical errors, add hydrologic terms in descriptions, note a name change for Kewa Pueblo, recognize the Southern Ute Indian Tribe boundary and because it is an existing use, add public water supply as a designated use to Springer Lake. SWQB Exhibit 13.

92. The Department also sought to upgrade nine segments from secondary to primary contact recreation uses and criteria. However, the Commission has decided to reject the Departments proposed changes and instead adopt the arguments raised by the San Juan Water Commission in opposition of the Departments proposed changes, and retain secondary contact for the nine segments.

20.6.4.101 RIO GRANDE BASIN: The main stem of the Rio Grande from the international boundary with Mexico upstream to one mile [~~below~~] downstream of Percha dam.

A. Designated Uses: irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat and primary contact.

B. Criteria:

(1) The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses except that the following segment-specific criterion applies: temperature 34°C (93.2°F) or less.

(2) At mean monthly flows above 350 cfs, the monthly average concentration for: TDS 2,000 mg/L or less, sulfate 500 mg/L or less and chloride 400 mg/L or less.

C. Remarks: sustained flow in the Rio Grande below Caballo reservoir is dependent on release from Caballo reservoir during the irrigation season; at other times of the year, there may be little or no flow.

[20.6.4.101 NMAC - Rp 20 NMAC 6.1.2101, 10-12-00; A, 12-15-01; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

20.6.4.102 RIO GRANDE BASIN: The main stem of the Rio Grande from one mile [~~below~~] downstream of Percha dam upstream to Caballo dam.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, primary contact and warmwater aquatic life.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criteria apply: the monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.

C. Remarks: sustained flow in the Rio Grande below Caballo reservoir is dependent on release from Caballo reservoir during the irrigation season; at other times of the year, there may be little or no flow.

[20.6.4.102 NMAC - Rp 20 NMAC 6.1.2102, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

20.6.4.103 RIO GRANDE BASIN: The main stem of the Rio Grande from the headwaters of Caballo reservoir upstream to Elephant Butte dam and perennial reaches of tributaries to the Rio Grande in Sierra and Socorro counties, excluding waters on tribal lands.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, marginal coldwater aquatic life, secondary contact and warmwater aquatic life.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

C. Remarks: flow in this reach of the Rio Grande main stem is dependent upon release from Elephant Butte dam.

[20.6.4.103 NMAC - Rp 20 NMAC 6.1.2103, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

20.6.4.104 NMAC – 20.6.4.109 NMAC – No changes proposed.

20.6.4.110 RIO GRANDE BASIN - The main stem of the Rio Grande from Angostura diversion works upstream to Cochiti dam, excluding the reaches on San Felipe, ~~Santo [Domingo]~~Kewa and Cochiti pueblos.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, primary contact, coldwater aquatic life and warmwater aquatic life.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criteria apply: pH within the range of 6.6 to 9.0 and temperature 25°C (77°F) or less.

[20.6.4.110 NMAC - Rp 20 NMAC 6.1.2108, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

20.6.4.111 NMAC – 20.6.4.115 NMAC – No changes proposed.

20.6.4.116 RIO GRANDE BASIN - The Rio Chama from its mouth on the Rio Grande upstream to Abiquiu reservoir, perennial reaches of the Rio Tusas, perennial reaches of the Rio Ojo Caliente, perennial reaches of Abiquiu creek and perennial reaches of El Rito creek [~~below~~] downstream of the town of El Rito.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, coldwater aquatic life, warmwater aquatic life and secondary contact.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criterion applies: temperature 31°C (87.8°F) or less.

[20.6.4.116 NMAC - Rp 20 NMAC 6.1.2113, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

20.6.4.117 NMAC – 20.6.4.123 NMAC – No changes proposed.

20.6.4.124 RIO GRANDE BASIN - Perennial reaches of Sulphur creek from [~~its headwaters to~~] its confluence with Redondo creek upstream to its headwaters.

A. Designated Uses: limited aquatic life, wildlife habitat, livestock watering and secondary contact.

B. Criteria: the use-specific criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criteria apply: pH within the range of 2.0 to 9.0, maximum temperature 30°C (86°F), and the chronic aquatic life criteria of Subsections I and J of 20.6.4.900 NMAC.

[20.6.4.124 NMAC - N, 05-23-05; A, 12-01-10; A, XX-XX-XX]

20.6.4.125 NMAC – 20.6.4.203 NMAC – No changes proposed.

20.6.4.204 PECOS RIVER BASIN - The main stem of the Pecos river from the headwaters of Avalon reservoir upstream to Brantley dam.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, secondary contact and warmwater aquatic life.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

[20.6.4.204 NMAC - Rp 20 NMAC 6.1.2204, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

[**NOTE:** The segment covered by this section was divided effective 05-23-05. The standards for Avalon Reservoir are under 20.6.4.219 NMAC.]

20.6.4.205 PECOS RIVER BASIN - Brantley reservoir.

A. Designated Uses: irrigation storage, livestock watering, wildlife habitat, primary contact and warmwater aquatic life.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

[20.6.4.205 NMAC - Rp 20 NMAC 6.1.2205, 10-12-00; A, 05-23-05; A, 12-01-10]

20.6.4.206 PECOS RIVER BASIN - The main stem of the Pecos river from the headwaters of Brantley reservoir upstream to Salt creek (near Acme), perennial reaches of the Rio Peñasco downstream from state highway 24 near Dunken, perennial reaches of the Rio Hondo and its tributaries [~~below~~] downstream of Bonney canyon and perennial reaches of the Rio Felix.

A. Designated Uses: irrigation, livestock watering, wildlife habitat, secondary contact and warmwater aquatic life.

B. Criteria:

(1) The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

(2) At all flows above 50 cfs: TDS 14,000 mg/L or less, sulfate 3,000 mg/L or less and chloride 6,000 mg/L or less.

[20.6.4.206 NMAC - Rp 20 NMAC 6.1.2206, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

20.6.4.207 PECOS RIVER BASIN - The main stem of the Pecos river from Salt creek (near Acme) upstream to Sumner dam.

A. Designated Uses: irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat and secondary contact.

B. Criteria:

(1) The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

(2) At all flows above 50 cfs: TDS 8,000 mg/L or less, sulfate 2,500 mg/L or less and chloride 4,000 mg/L or less.

[20.6.4.207 NMAC - Rp 20 NMAC 6.1.2207, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

20.6.4.208 NMAC – 20.6.4.212 NMAC – No changes proposed.

20.6.4.213 PECOS RIVER BASIN - McAllister lake.

A. Designated Uses: coldwater aquatic life, secondary contact, livestock watering and wildlife habitat.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses, except that the following segment-specific criterion applies: temperature 25°C (77°F) or less.

[20.6.4.213 NMAC - Rp 20 NMAC 6.1.2211.3, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

20.6.4.214 NMAC– 20.6.4.218 NMAC – No changes proposed.

20.6.4.219 PECOS RIVER BASIN - Avalon reservoir.

A. Designated Uses: irrigation storage, livestock watering, wildlife habitat, secondary contact and warmwater aquatic life.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

[20.6.4.219 NMAC - N, 05-23-05; A, 12-01-10; A, XX-XX-XX]

20.6.4.220 NMAC – 20.6.4.304 NMAC – No changes proposed.

20.6.4.305 CANADIAN RIVER BASIN - The main stem of the Canadian river from the headwaters of Conchas reservoir upstream to the New Mexico-Colorado line, perennial reaches of the Conchas river, the Mora river downstream from the USGS gaging station near Shoemaker, the Vermejo river downstream from Rail canyon and perennial reaches of Raton, Chicorica (except Lake Maloya and Lake Alice) and Uña de Gato creeks.

A. Designated Uses: irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat and primary contact.

B. Criteria:

(1) The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

(2) TDS 3,500 mg/L or less at flows above 10 cfs.

[20.6.4.305 NMAC - Rp 20 NMAC 6.1.2305, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

[**NOTE:** This segment was divided effective 12-01-10. The standards for [~~Lake Maloya and~~] Lake Alice and Lake Maloya are under 20.6.4.311 and 20.6.4.312 NMAC, respectively.]

20.6.4.306 NMAC – 20.6.4.307 NMAC – No changes proposed.

20.6.4.308 CANADIAN RIVER BASIN - Charette lakes.

A. Designated Uses: coldwater aquatic life, warmwater aquatic life, secondary contact, livestock watering and wildlife habitat.

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

[20.6.4.308 NMAC - Rp 20 NMAC 6.1.2305.5, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

20.6.4.309 – 20.6.4.316 – No changes proposed.

20.6.4.317 CANADIAN RIVER BASIN - Springer lake.

A. Designated Uses: coolwater aquatic life, irrigation, primary contact, livestock watering, [~~and~~] wildlife habitat, and public water supply.

B. Criteria: The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses.

[20.6.4.317 NMAC - N, 07-10-12; A, XX-XX-XX]

93. The proposed minor changes to the segment descriptions in 20.6.4.101 and .102 NMAC would replace the word "below" with the words "downstream of" to be consistent with terms more commonly applied to stream terminology, and also used in the other segment descriptions throughout the water quality standards. SWQB Exhibit 13.

94. In 2009, the Pueblo formerly known as Santa Domingo officially changed

its name to Kewa Pueblo; therefore, this change is proposed to be incorporated into the segment description for Section 20.6.4.110 NMAC. SWQB Exhibit 13.

95. The Department proposes replacing the word "below" with the hydrologic term "downstream of" in the segment description for 20.6.4.116 NMAC.

96. The changes to language in the segment description for Section 20.6.4.124 NMAC is proposed to more accurately describe the reach in hydrologic terms from the downstream confluence upstream to its headwaters.

97. The word "below" is replaced with the hydrologic term "downstream of" in the segment description for 20.6.4.206 NMAC.

98. The appropriate segments are assigned to Lake Alice and Lake Maloya, correcting a grammatical error in the note for 20.6.4.305 NMAC. SWQB Exhibit 13.

99. Springer Lake in 20.6.4.317 NMAC is a public water supply for Colfax County (Water System Number NM3526604); therefore, this designated use is an existing use that is proposed be added to the water body segment description. SWQB Exhibit 13.

100. The upgrade from secondary contact to primary contact suggested by the Department in Sections 20.6.4.103, .116, .124, .204, .206, .207, .213, .219, and .308 is rejected by the Commission. The Commission instead accepts the reasoning proposed by the San Juan Water Commission to maintain secondary contact for the nine enumerated segments.

101. The Department has not presented sufficient technical information to support its proposal to upgrade the nine segments to primary contact. Charles Nylander, Direct Technical Testimony p. 25

102. Adopting more stringent water quality standards absent information and

data proving use is attainable is unadvised. Federal regulations require new and substantive information to upgrade a designated use, which the Department has failed to provide. *Id.* at 22.

103. Upgrading the nine segments to primary contact would burden the State of New Mexico with unwarranted transactional costs. *Id.* at 23.

104. Maintaining secondary contact for the nine segments is in compliance with CWA Section 101(a)(2). *Id.* at 23.

105. Therefore, the nine segments will retain their secondary contact use designations. Based on the weight of the evidence, the Commission finds San Juan Water Commission's proposal to maintain secondary contact uses in certain segments is well taken, and therefore accepted.

X. Aquatic Life Uses in the Animas River - 20.6.4.403 and 20.6.4.404 NMAC

106. NMED proposed to change the designated aquatic life uses for the Animas River in New Mexico to coolwater. The proposed changes for the Animas River are supported by a UAA prepared by the NMED. SWQB Exhibits 50-56.

20.6.4.403 SAN JUAN RIVER BASIN - The Animas river from its confluence with the San Juan river upstream to Estes Arroyo.

A. Designated Uses: public water supply, industrial water supply, irrigation, livestock watering, wildlife habitat, [~~marginal coldwater~~] coolwater aquatic life, and primary contact [~~and warmwater aquatic life~~].

B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses [~~.~~], except that the following segment-specific criterion applies: temperature 29°C (84.2°F) or less.

[20.6.4.403 NMAC - Rp 20 NMAC 6.1.2403, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XX]

20.6.4.404 SAN JUAN RIVER BASIN - The Animas river from Estes Arroyo upstream to the [~~New Mexico-Colorado line~~] Southern Ute Indian tribal boundary.

A. Designated Uses: [~~coldwater~~]coolwater aquatic life, irrigation, livestock watering, wildlife habitat, public water supply, industrial water supply and primary contact.

FINAL ORDER

Having considered the administrative record in its entirety, public testimony, and all technical testimony presented; and being otherwise fully advised regarding this matter; by an affirmative vote of 8 to 0, the proposed amendments to the Standards were approved by the WQCC. Title 20, Chapter 6, Part 4 of the New Mexico Administrative Code (20.6.4 NMAC) are to be amended as indicated in Attachment A, with any appropriate corrections of formatting or other changes necessary to file these regulations with the New Mexico State Records Center. The regulatory change as described in this Order is hereby adopted, to be effective 30 days after filing with the State Records Center.

Larry J. Dominguez

CHAIRMAN – Water Quality Control Commission

Dated: 1-10-17

NOTICE OF PROCEDURE FOR APPELLATE REVIEW

Any aggrieved party may seek appellate review in the Court of Appeals, pursuant to NMSA 1978, §74-6-7 and Rules of Appellate Procedure, 12-601 NMRA. Direct appeals from orders shall be taken by filing a notice of appeal with the appellate court clerk within thirty (30) days from the date of the Order.