

**STATE OF NEW MEXICO
BEFORE THE WATER QUALITY CONTROL COMMISSION**

COPY

In the Matter of:

**PROPOSED AMENDMENTS TO
SURFACE WATER QUALITY
STANDARDS FOR DOG CANYON
CREEK AND TECOLOTE CREEK,
20.6.4 NMAC**



No. WQCC 17-04 (R)

**NEW MEXICO ENVIRONMENT DEPARTMENT'S
NOTICE OF INTENT TO PRESENT TECHNICAL TESTIMONY**

Pursuant to 20.1.6.202 NMAC, the New Mexico Environment Department (“Department”) submits this Notice of Intent to Present Technical Testimony for the hearing in this matter currently scheduled for January 9, 2018.

1. Entity for whom the witnesses will testify

The Surface Water Quality Bureau of the Water Protection Division of the Department.

2. Identity of witnesses

The Department will call the following witnesses to present technical testimony at the hearing:

Jennifer Fullam is the Standards, Planning and Reporting Team Supervisor and the Water Quality Standards Coordinator with the Department’s Surface Water Quality Bureau. Her resume describing her educational and professional background is attached as NMED Exhibit 1. A copy of Ms. Fullam’s written direct testimony is attached as NMED Exhibit 2.

Bryan Dail is an Environmental Scientist with the Department’s Surface Water Quality Bureau. His resume is attached as NMED Exhibit 3. A copy of Dr. Dail’s written direct testimony is attached as NMED Exhibit 4.

3. Estimated duration of direct oral testimony of witnesses

Ms. Fullam 15 minutes

Dr. Dail 20 minutes

4. List of exhibits to be offered by the Department at the hearing

<u>EXHIBIT NUMBER</u>	<u>TITLE OF EXHIBIT</u>
NMED Exhibit 1	Resume of Jennifer Fullam
NMED Exhibit 2	Written Direct Testimony of Jennifer Fullam
NMED Exhibit 3	Resume of Bryan Dail
NMED Exhibit 4	Written Direct Testimony of Bryan Dail
NMED Exhibit 5	Public Notice of Dog Canyon Creek and Tecolote Creek Use Attainability Analyses
NMED Exhibit 6	Attendee list for public meeting in Alamogordo
NMED Exhibit 7	Comments of New Mexico Game & Fish Department
NMED Exhibit 8	Department's Response to Comments
NMED Exhibit 9	Department's Preliminary Statement of Reasons
NMED Exhibit 10	Publication of Hearing Notice
NMED Exhibit 11	Tecolote Creek Use Attainability Analysis
NMED Exhibit 12	Dog Canyon Creek Use Attainability Analysis
NMED Exhibit 13	Proposed 20.6.4 NMAC

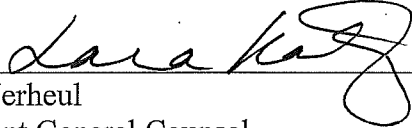
The Department reserves the right to introduce and move for admission of any other exhibit in support of rebuttal testimony at the hearing.

Respectfully submitted,

**NEW MEXICO ENVIRONMENT DEPARTMENT
OFFICE OF GENERAL COUNSEL**

By:

for




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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing *New Mexico Environment Department's Notice of Intent to Present Technical Testimony* was filed with the WQCC Administrator and served on the following via electronic mail on December 20, 2017:

Steven Vigil
Office of the Attorney General
P.O. Box 1508
Santa Fe, New Mexico 87504-1508
svigil@nmag.gov
Counsel for the Water Quality Control Commission



John Verheul

Jennifer T. Fullam

WORK HISTORY

March 2014-March 2017

State of New Mexico Environment Department, Santa Fe, New Mexico

Surface Water Quality Bureau

Standards, Planning and Reporting Team Supervisor

- Responsible for the daily management and oversight of work conducted by the Standards, Planning and Reporting Team which oversees the implementation of the Bureau's Quality Assurance requirements, technical and educational outreach activities and regulatory and rulemaking actions.
- Ensure progress towards the goals of the SPR team by communicating regularly with management and staff on program needs, issues, and priorities.
- Coordinate and provide guidance and appropriate training for staff on program procedures.
- Ensure that all written work products from the SPR team are of high quality, reflect the professionalism of the Bureau and Department, and support NMED's role as the lead agency for surface water quality protection in NM.
- Conduct employee performance reviews of staff under the SPRT.
- Conduct recruitment, disciplinary and hiring actions in accordance with State Personnel and Human Resources policies and procedures.
- Participate in technical and educational outreach activities to better enhance the public's understanding of surface water quality.
- Conduct public outreach for proposed rulemaking actions to the surface water quality standards. This includes coordinating public notices through the website, listserv, newspapers, media releases and public meetings, providing technical and regulatory information from members of the public and recognized stakeholders.
- Collaborating and facilitating dialogue with Tribes on water quality standard issues. Reviewing Tribal Water Quality Standards and providing input, as applicable.
- Participate on national issues pertaining to water quality standards such as variances, proposed rules on Waters of the United States (WOTUS) and proposed guidelines for standards.
- Facilitate positive working relationships with other state and federal agencies, stakeholders and cooperators involved in surface water quality standards activities.
- Oversee the data submittal process and assist external entities with data collection methods and quality assurance mechanisms to enhance their water quality surveys so they may be used for use with the Bureau's water quality assessment.
- Develop and amend quality assurance guidance documents such as the Quality Management Plan (QMP) and Quality Assurance Project Plan (QAPP), Standard Operating Procedures and Field Sampling Plans
- Oversee and coordinate quality assurance activities pertaining to surface water data collection both within the Bureau and with outside entities seeking to submit water quality data for assessment purposes.
- Review and revise, as necessary, the Water Quality Management Plan and Continuing Planning Process in order to assist Bureau staff implement the various activities of the SWQB as they pertain to the water quality standards.
- Serve as the coordinator for New Mexico's surface water quality standards which includes but is not limited to applying the procedures established for adopting changes to the surface water

quality standards, petitioning for a hearing to the Water Quality Control Commission (WQCC), preparing and advertising public notices, providing written and oral testimony for a hearing before the WQCC, preparing for cross examination, understanding and applying hearing guidelines, assisting with the development of post-hearing submittals and filing rule changes to State Records and Archives in accordance with 20.1.24.10 NMAC.

- Maintain knowledge of State and Federal statutory requirements that affect surface water quality standards and standards development.
- Coordinate with EPA on actions pertaining to the State's Water Quality Standards and the Federal Clean Water Act. This includes submitting surface water quality standards (new and revised) to EPA Region 6 for review and action (approval or disapproval).
- Conduct and review use attainability analysis and hydrology protocol surveys which propose to revise, remove or add segment specific water quality standards to 20.6.4 NMAC.

March 2014-March 2017

State of New Mexico Environment Department, Santa Fe, New Mexico

Petroleum Storage Tank Bureau

Compliance Assistance Coordinator/Environmental Scientist Specialist-A

- Responsible for the implementation and daily management of the Delivery Prohibition enforcement program.
- Development and implementation of strategic data management processes.
- Create and maintain tracking tools to assist in data collection and case management.
- Effectively track specific violations and enforcement actions for approximately 300 new cases (1300 individual violations) per year in a consistent, objective and timely manner.
- Compile information, through active data mining within these internal tracking applications, the Department's database and facility owner's files, to be able to provide compliance and enforcement statistics to meet the Federal Environmental Protection Agency's mandates and State reporting requirements.
- Effectively communicate, both verbally as well as in writing to various audiences including peer,s management, regulated community and legal counsel.
- Review and clarify observations documented by the inspectors in the field and prepare a legally defensible enforcement case.
- In the event enforcement actions are appealed to the Secretary, assist in preparing testimony for a hearing.
- Apply knowledge of Federal (specifically 40 CFR §280) and State regulations (20.5 NMAC) with technical and legal writing skills experience to draft and edit enforcement documents.
- Involved in the development of new regulations to meet 40 CFR § 280.
- Regularly coordinate with the Bureau Chief and Program Managers within the Bureau
- Seek input and collaborate with staff from other Bureaus as it applies towards implementation of State and Federal Regulations.
- Network with other States and Tribes on processes and regulatory implementation.
- Provide written and verbal notification to facility owners of upcoming enforcement actions and offer assistance on actions required to obtain compliance.
- Maintain open communication with inspectors to assemble the chronological histories of ongoing outreach with owners and operators facing enforcement actions.
- Gather, collaborate and discuss ongoing applicability of the regulations and disseminate this information to inspectors to ensure continuity within the delivery prohibition program.

- Manage and delegate tasks to technical and administrative staff assisting with the delivery prohibition program.
- Serve as a Bureau-wide webmaster, updating the Bureau's website as necessary using cloud based programs and Adobe Contribute.
- Assist with additional projects such as with the development of standard operating procedures for the Prevention Inspection Program and database development and management.
- Assist the Bureau's Prevention Inspection Program by contributing to the ongoing program development and conducting compliance inspections at facilities around the State; which requires knowledge of the technical aspects of both UST and AST systems.

July 2007- March 2014

State of New Mexico Environment Department, Santa Fe, New Mexico

Ground Water Quality Bureau

Pollution Prevention Section

Environmental Scientist-O

- Ensuring the protection of ground water throughout the State of New Mexico by regulatory management for over 70 ground water discharge permits. The diversity of sites range from large federal industrial facilities, large domestic wastewater treatment plants and small septic tank/leachfield systems.
- Administering regulatory functions as they pertain to Permitted and un-permitted facilities. Actions include but are not limited to management of records subject to the public information act, data entry of facility monitoring reports, database management for assigned facilities, ground water and wastewater sampling, response to unauthorized releases and enforcement actions.
- Successfully worked with Permittees and the general public in achieving voluntary compliance through non-enforcement actions. Refined experience in assessing potentially volatile situations and diffusing with effective and clear communication. Ground water protection has also been achieved through promoting cost-effective and source control mechanisms to reduce potential contaminants from reaching ground water. Discharge Permits are designed to address protection of ground water and human health while working towards long-term sustainability of small businesses.
- Maintain and continuously enhancing an already robust understanding of Federal Regulations such as the Clean Water Act, Resource Conservation and Recovery Act, Biosolids Standards the State of New Mexico's Clean Water act, Water Quality Control Commission regulations which have been used for evaluating site specific conditions and development of priority actions.
- Ongoing coordination and collaboration with Tribal entities including but not limited to compiling the Tribal Collaboration report for the Ground Water Quality Bureau, participation in the Annual Tribal Summit, planning and serving as a mentor and instructor for the annual Tribal Youth Environmental Science Camp.
- Able to effectively facilitate a diverse group of individuals, with varying backgrounds and expertise, in order to develop and strategize a productive approach in resolving complex issues. Ongoing work includes facilitation of discussions between the GWQB, Hazardous Waste Bureau, Department of Energy Oversight Bureau, Surface Water Bureau and Los Alamos National Laboratory in order to maintain regulatory compliance and cross-departmental communications for the management of the facility.
- Provide assistance to legal counsel on litigation cases. These have included involvement with a federal negotiation case with the Hazardous Waste Bureau and Los Alamos National Laboratory

as well as a Chapter 11 Bankruptcy Lawsuit against Mark IV Industries for the continued remediation of a contaminated ground water site in east Albuquerque which resulted in an Order of Consent.

- Actively participated and spearheaded discussions in various workgroups within the section to enhance the regulatory process and streamline the efficiency of the program to ensure protection of the State's resources as well as promoting economic development for rural communities. These have included the development of Best Management Practices for RV Parks, Tribal Consultation Policy, Grease Trap Management Practices and Domestic Wastewater Discharge Permit Template.
- Development of sound investigative skills to truth information submitted to NMED through remote sensing technologies, ground-truthing or through various technological resources.
- Development of internal mechanisms and processes to effectively manage and increase efficiency in the management of regulatory processes.
- Serve as a Quality Assurance Manager (QAM) for the Radiation Control Bureau's Quality Assurance Project Plan (QAPP) ensuring all data collection activities are collected in a consistent and defensible manner.
- Provide ongoing assistance for peers as it pertains to application federal laws and regulations, effective approaches to gain voluntary compliance and general management tools and resources to increase efficacy in job performance.
- General program administration functions to include preparing timesheets, vehicle logs, travel requests, along with submitting quarterly and annual reports to management as assigned.

April 2003-July 2007

Pueblo of Tesuque, Santa Fe, New Mexico

Environment Department

Biologist/Director

- Responsible for overseeing the management and execution of activities associated with the protection of environmental resources. The program included surface water quality, water rights, ground water, planning and development, forest restoration, wildlife habitat management, wildland fire response, emergency response as it pertained to the community and potential environmental impacts, general community assistance, education (pre-k through college) and outreach.
- Reported directly to the Tribal Administrator, Governor and Tribal Council on the department's activities.
- Supervised up to 11 individuals on routine and special projects undertaken by the department which included but were not limited to surface water, forest restoration, WUI fire suppression projects, wildlife surveys and habitat assessments, economic development projects, Aamodt water rights settlement committee, community activities, educational outreach (kindergarten through college), assistance with organic farm program, community assistance as requested.
- Worked and collaborated with numerous federal, state and local government agencies such as the Environmental Protection Agency (EPA), Army Corp of Engineers, Bureau of Indian Affairs, Indian Health Services, State of New Mexico Environment Department, Santa Fe County, City of Santa Fe, and various Tribal governments.
- Responsible for writing and managing over \$1,000,000.00 in State and Federal grants through the U.S. Forest Service, Administration for Native Americans, Environmental Protection Agency, U.S. Fish and Wildlife, and New Mexico Clean and Beautiful, submitting quarterly and annual reports on a regular basis as well as auditing expenses to ensure allocation of funds was completed and reported appropriately.

- Served as a member on the Tribal Emergency Planning committee and Land Use Planning Committee, Regional Tribal Operations Committee, Inter-Tribal Bison Cooperative, Inter-Tribal Resource Advisory Committee, and Water Rights Committee and as a voting member for EPA Region 6 Regional Tribal Operations Committee.
- Responsible for writing and implementing Quality Assurance documents and the department's annual Quality Management Plan, Quality Assurance Project Plans for water quality monitoring, GIS/GPS, and the Elk Demonstration Project.
- Prepared and conducted the Tribe's triennial review of the Water Quality Standards in 2005.
- Actively participated in dialogue with community members to better understand the needs and priorities of the Tribe in order to effectively target financial mechanisms and internal resources which could be utilized to achieve long-term goals.
- Designed and implemented a multi-parameter study to determine movement and habitat utilization of elk herds within lower pinon/juniper forests of Tesuque Pueblo. Field work consisted of off-road driving and heavy lifting of equipment and supplies
- Use of various field equipment for work pertaining to water quality monitoring (ground and surface water), riparian ecosystem rehabilitation projects, wildlife habitat and behavior. Data correction and management of files.

January 2002- April 2003

Los Alamos National Laboratory, Los Alamos, New Mexico

Contaminant Monitoring Team

Graduate Research Assistant

- Provided technical research support for the Ecology Group including compiling, writing and editing portions of the published technical reports as well as the annual Environmental Surveillance Report.
- Collected and processed field samples from remote areas with a wide array of equipment.
- Analyzed data in MS Excel for risk assessment of contaminant such as high explosives, radionuclide, polychlorinated biphenyls (PCBs), dioxins, furans and pesticides such as DDT.
- Actively participated in a cooperative group with the New Mexico Environment Department, Los Alamos County and Tribal entities to designed and implement a contaminant mobilization study in the Rio Grande to assess the possible PCB risk levels that may be associated with LANL's historic PCB releases and the potential of mobilization after the Cerro Grande fire using semi-permeable membrane devises (LANL Publication Gonzales and Montoya 2005).

EDUCATION

2002-2008 New Mexico Highlands University, Las Vegas, New Mexico

Master of Science (May 2008)

- Thesis on the unique characteristics of elk movement and habitat utilization within the pinon/juniper forests of Tesuque Pueblo
- Other studies included toxicology, environmental assessment, surface hydrology, dendrology, wildlife habitat assessment and research methods
- Research on the use of semi-permeable membrane devices to assess the effects of pulse flooding events on PCB concentrations in the Rio Grande river near Los Alamos
- Cumulative GPA 4.0

1999-2002 University of New Mexico, Albuquerque, New Mexico

Bachelor of Science, Biology with minor in Geography (May 2001)

- Studies in riparian ecology, conservation biology, animal behavior, zoology and physiology.
- Formal studies and research in Geographical Information Systems.

- Graduated Cum Laude.

1994-1997

Northern New Mexico Community College, Espanola, New Mexico

Associate of Science in Science

- Graduated with Honors

CERTIFICATIONS/TRAININGS

- EPA Water Quality Standards Academy (certificate)
- Western States Project NMED Environmental Enforcement Procedure Training (certificate)
- UST Inspector Training (Certificate)
- State of NM HR and OGC Inspector Training (certificate)
- EPA QMP/QAPP Training, Santa Fe, NM(Certificate)
- EPA Training to Quality Assurance Management, Data Quality Objectives, Santa Fe, NM(Certificate)
- HAZWOPER certified (2007-present)
- AHMP Essentials of Hazardous Materials Management (Certificate)
- U.S. Dept of Transportation Awareness for Initial Response to Haz-Mat Incidents Course (Certificate)
- National Safety Council Defensive Driving Course (Certificate)
- EPA Tribal Water Quality Standards Academy Intermediate level (Certificate)
- NMSU WTAP Advanced Secondary Treatment (certificate)
- National Onsite Wastewater Recycling Association A to Z Course (certificate)
- Fundamentals of Drilling (certificate)
- FEMA National Incident management System (IS-700) Tesuque Pueblo, NM (Certificate)
- BIA Northern Pueblos Wildland Firefighter Training (S-110, S-133, S-134, I-100, L-180, S-130, S-190), Ohkay Owingeh, NM (Red Card Certification)
- Pandemic Flu, Train the Trainer, Albuquerque, NM (Certificate)
- Zoonotic Disease Training, Los Alamos National Laboratory, Los Alamos, NM
- YSI Training on 6920 Multi-parameter water quality monitoring unit, Yellow Springs, OH
- Stream Habitat Assessment Training, Taos Pueblo, NM
- Biological Assessment Training, Santa Ana Pueblo, NM
- Native Permaculture Design Course, Santa Fe, NM (Certificate)
- ITBC Bison Herd Management/Marketing Training (Certificate)
- Personal Effectiveness Improvement Program (Certificate)
- State of NM Sexual Harassment Training (certificate)

PUBLICATIONS/ORGANIZATIONS

- Gonzales, G. and Montoya, J., 2005. Polychlorinated biphenyls (PCBs) in the Rio Grande Sampled Using Semi-permeable Membrane Devices. LA-14200.
- Fullam, J., 2008. Elk Habitat Utilization Within Lower Pinon Juniper Forests of Tesuque Pueblo, New Mexico Highlands University Graduate Thesis.
- The Wildlife Society (2011-Present)
- Golden Key National Honor Society (2001-Present)
- Native American Fish and Wildlife Society (2003-2007)
- The Quivera Coalition (2003-2007)
- Society of Environmental Toxicology and Applied Chemistry (2002-2007; 2017-Present)

**STATE OF NEW MEXICO
WATER QUALITY CONTROL COMMISSION**

**IN THE MATTER OF: PROPOSED AMENDMENTS
TO SURFACE WATER QUALITY STANDARDS
FOR DOG CANYON CREEK AND TECOLOTE
CREEK, 20.6.4 NMAC**

WQCC 17-04 (R)

DIRECT TECHNICAL TESTIMONY OF JENNIFER FULLAM

I. INTRODUCTION

My name is Jennifer Fullam, and I am presenting this written testimony (**NMED Exhibit 2**) on behalf of the New Mexico Environment Department (“Department”) concerning the proposals to amend the water quality standards for portions of Dog Canyon Creek and Tecolote Creek. I am currently employed as the Standards, Planning and Reporting Team Supervisor and serve as the Water Quality Standards Coordinator with the Department’s Surface Water Quality Bureau (“SWQB”). A copy of my resume is included as **NMED Exhibit 1**. It is accurate and up-to-date.

I will be presenting testimony on proposals to amend water quality standards based on two use attainability analyses (“UAAs”) conducted by the SWQB to identify the most protective attainable aquatic life uses for Dog Canyon Creek and Tecolote Creek.

II. BACKGROUND

The perennial reaches of Tecolote Creek in San Miguel County are currently classified in segment 215 of New Mexico’s Standards for Interstate and Intrastate Surface Waters, Title 20 Chapter 6 Part 4, New Mexico Administrative Code (“NMAC”) (20.6.4.215 NMAC). This segment has a high quality coldwater aquatic life designated use with associated temperature, pH and specific conductance criteria. In 1996, Forest Guardians and Southwest Environmental Center

1 filed a complaint against the United States Environmental Protection Agency (“USEPA”) for
2 violating the Clean Water Act by failing to comply with the terms of Section 303(d), 33 United
3 States Code (U.S.C.) 1313(d). The parties entered into a settlement agreement which established
4 a 20-year timeline for developing Total Maximum Daily Loads (“TMDLs”) for waters identified
5 as impaired on the 1996-1998 List of Impaired Waterbodies (“List”). The Settlement Agreement
6 requires all waterbodies on the List to be addressed either through delisting or a TMDL. Perennial
7 reaches of Tecolote Creek have been listed since 1996 for temperature and specific conductance
8 impairments and were therefore included as part of the Settlement Agreement. Tecolote Creek
9 has since been split into two assessment units (“AUs”). The portion from Blue Creek to
10 headwaters was determined to be meeting water quality standards in 2004, and this portion
11 continues to meet standards. However, additional monitoring in 2001 and 2010 confirmed the
12 impairments for Tecolote Creek from Interstate-25 to Blue Creek.

13 The perennial reaches of Dog Canyon Creek in Otero County are currently classified in
14 segment 801 of New Mexico’s Standards for Interstate and Intrastate Surface Waters, Title 20
15 Chapter 6 Part 4, NMAC (20.6.4.801 NMAC). This segment has a coldwater aquatic life
16 designated use. Dog Canyon Creek has been listed as impaired due to temperature since 2006
17 based on data collected during the Department’s 2004 water quality survey data. Subsequent data
18 collected in 2010 and 2012 verified the temperature impairment.

19 **III. REGULATIONS TO CHANGE A DESIGNATED USE**

20 The Federal Water Pollution Control Act (also known as the “Clean Water Act” or
21 “CWA”), 33 United States Code (U.S.C.) §§ 1251-1387, Section 101(a)(2), requires that, wherever
22 attainable, water quality shall provide for the protection and propagation of fish, shellfish and
23 wildlife and for recreation in and on the water. In accordance with the Code of Federal

1 Regulations, Title 40, Part 131 Subpart B, Section 131.10(a) (40 C.F.R. 131.10(a)), each State
2 must specify appropriate water uses to be achieved and protected. Further, and with respect to 40
3 C.F.R. 131.10(g), “[s]tates may remove a designated use which is not an existing use, as defined
4 in 131.3, or establish sub-categories of a use if the State can demonstrate that attaining the
5 designated use is not feasible because: (1) Naturally occurring pollutant concentrations prevent the
6 attainment of the use”

7 In order to change a designated use, a state must conduct a UAA whenever the state wishes
8 to remove a designated use that is specified in Section 101 (a)(2) of the CWA or to adopt sub-
9 categories of uses specified in Section 101(1)(2) of the CWA which require less stringent criteria.

10 The requirements as outlined under 40 C.F.R. 131 and the CWA have been codified under
11 the Standards for Interstate and Intrastate Surface Waters, Title 20 Chapter 6 Part 4, NMAC. In
12 accordance with 20.6.4.15 NMAC, a UAA is a scientific study conducted for the purpose of
13 assessing the factors affecting the attainment of a use.

14 As continued under 20.6.4.15.B NMAC, a UAA shall assess the physical, chemical,
15 biological, economic or other factors affecting the attainment of a use and the analysis shall rely
16 on scientifically defensible methods.

17 Under 40 C.F.R. 130.5(b)(6) states are required to establish a process for assuring adequate
18 implementation of new or revised water quality standards under a continuing planning process
19 (“CPP”). The SWQB’s approved Statewide Water Quality Management Plan and Continuing
20 Planning Process was last reviewed and approved by the Water Quality Control Commission and
21 the USEPA in 2011. This process outlines the technical support and required public outreach to
22 conduct a UAA. My testimony will outline the administrative processes and the Department’s
23 implementation of them for the UAAs conducted for Dog Canyon Creek and Tecolote Creek. Dr.

1 Bryan Dail will present testimony on the technical evidence provided in the UAAs as the bases for
2 the proposed changes.

3 **IV. IMPLEMENTATION OF THE UAA PROCESS FOR DOG CANYON**
4 **CREEK AND TECOLOTE CREEK**

5 The Department conducted two independent scientific studies for the purpose of assessing
6 the most protective, naturally attainable aquatic life uses of Dog Canyon Creek and Tecolote
7 Creek. The studies evaluated the physical, chemical, and biological factors affecting the
8 attainment of the aquatic life use for the perennial portions of the above referenced waterbodies.
9 The studies determined that, “naturally occurring pollutant concentrations (i.e., high water
10 temperatures resulting from natural ambient air temperatures) prevent the attainment of the
11 [aquatic life] use” established for these stream segments.

12 **V. PUBLIC PARTICIPATION**

13 The Department sought out input from identified stakeholders such as the New Mexico
14 Department of Game and Fish (“NMG&F”) and the USEPA, Hermit’s Peak Watershed Alliance,
15 Upper Pecos Watershed Association and New Mexico State Parks.

16 In order to solicit additional input from potential stakeholders and citizens, the Department
17 then released the UAAs for a 30-day public comment period from September 1, 2017 through
18 October 2, 2017. The notice was published in four newspapers of general circulation or local
19 publication (NMED Exhibit 5) in both English and Spanish, distributed to 1,514 recipients
20 through the Department’s SWQB email list, and posted on the SWQB’s website. The Department
21 also held two public meetings to present the studies and findings. The first meeting was held on
22 September 18, 2017, at the Alamogordo Public Library in Alamogordo, New Mexico, which two
23 members of the public attended (NMED Exhibit 6). The second meeting was held at New Mexico

1 Highlands University in Las Vegas, New Mexico, on September 21, 2017, which no members of
2 the public attended.

3 Only one set of comments were received by SWQB (**NMED Exhibit 7**). Comments from
4 NMG&F supported the designated use change on Dog Canyon Creek from coldwater to coolwater.
5 NMG&F also supported the designation of coolwater to the lower portions of Tecolote Creek
6 (upstream of I-25), but suggested a transition zone near San Geronimo. The Department met with
7 NMG&F on October 4, 2017, and responded formally in writing on October 25, 2017 (**NMED**
8 **Exhibit 8**). There were no substantive conflicts between NMG&F's comments and the
9 Department's determination, and on November 7, 2017, NMG&F informed the Department, via
10 email, that they did not plan on submitting any additional data or comments regarding the UAA
11 for Tecolote Creek. This concluded the Department's outreach efforts as they pertain to these
12 UAAs.

13 VI. ADMINISTRATIVE PROCESS

14 On September 12, 2017, the Department petitioned the New Mexico Water Quality Control
15 Commission ("WQCC") to hold a hearing on the proposed amendments in accordance with NMSA
16 1978, § 74-6-4(D) (2009) and 20.1.6 NMAC. The petition was supported by the proposed
17 amendments to 20.6.4 NMAC and the Statement of Reasons for the proposed changes (**NMED**
18 **Exhibit 9**). The WQCC granted a hearing to be held on January 9, 2018.

19 Notice of the hearing was published in the New Mexico Register in accordance with
20 1.24.15.9 and 20.1.6.201 NMAC on October 31, 2017. Notice of the hearing was also published
21 in the Albuquerque Journal on November 6, 2017; in the Las Vegas Optic on November 8, 2017;
22 and in the Alamogordo Daily News on November 8, 2017. Affidavits of these publications are
23 provided as **NMED Exhibit 10**. The notice of hearing was provided on the SWQB's website

1 beginning on November 14, 2017, and distributed to 1,547 recipients on November 14, 2017,
2 through the SWQB's email list.

3 VII. PROPOSED AMENDMENTS

4 The findings of the scientific studies conducted for the UAAs, along with input from
5 stakeholders and the public, indicate that the designated uses for the perennial portions of Dog
6 Canyon Creek and perennial portions of Tecolote Creek from U.S. Interstate 25 ("I-25") to Blue
7 Creek are supportive of a coolwater aquatic life use.

8 The proposed amendments to New Mexico's Standards for Interstate and Intrastate Surface
9 Waters (20.6.4 NMAC) are as follows, in strikethrough/underline format:

10 **20.6.4.215 PECOS RIVER BASIN - Perennial reaches of the Gallinas river and**
11 **all its tributaries [~~above~~]upstream of the diversion for the Las Vegas municipal**
12 **reservoir, [~~and~~] perennial reaches of Tecolote creek upstream of Blue creek and**
13 **[~~its~~]all perennial tributaries of Tecolote creek.**

14 **A. Designated Uses:** domestic water supply, high quality coldwater aquatic
15 life, irrigation, livestock watering, wildlife habitat, industrial water supply and primary
16 contact; and public water supply on the Gallinas river.

17 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC
18 are applicable to the designated uses, except that the following segment-specific criteria
19 apply: specific conductance 300 μ S/cm or less (450 μ S/cm or less in Wright Canyon creek);
20 the monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less, single sample 235
21 cfu/100 mL or less.

22 **20.6.4.801 CLOSED BASINS: - Rio Tularosa [~~east~~]upstream of the old U.S.**
23 **highway 70 bridge crossing east of Tularosa and all perennial tributaries to the**

1 Tularosa basin except Three Rivers and Dog Canyon creek, and excluding waters on
2 the Mescalero tribal lands.

3 A. **Designated uses:** coldwater aquatic life, irrigation, livestock watering,
4 wildlife habitat, public water supply and primary contact.

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

9 To implement the amended aquatic life use designation for the perennial portions of Dog
10 Canyon Creek as well as Tecolote Creek from I-25 to Blue Creek, it will be necessary to add two
11 new water quality standards segments. The following are the proposed new water quality
12 standards segments:

13 **20.6.4.230 PECOS RIVER BASIN – Perennial reaches of Tecolote creek from I-**
14 **25 to Blue creek.**

15 A. **Designated Uses:** domestic water supply, coolwater aquatic life, irrigation,
16 livestock watering, wildlife habitat and primary contact.

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

21 **20.6.4.810 CLOSED BASINS – Perennial reaches of Dog Canyon creek.**

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

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

5 This concludes my direct testimony.

DAVID BRYAN DAIL

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EMPLOYMENT

Adjunct Assistant Professor: Department of Biology, The University of New Mexico.
September 1, 2016 – present.

Environmental Scientist-Advanced: Monitoring, Assessment, & Standards Section, Surface Water Quality Bureau, New Mexico Environment Department.
June 2013 – present.

- Interim Standards Coordinator, Standards, Planning & Reporting Team. August 16, 2016 – present.
- Interim Quality Assurance Officer, Standards, Planning & Reporting Team. February 14, 2016 – present.

Research Scientist: Dept. of Plant Soil and Environmental Sciences, University of Maine.
September 2007–June 2013.

Assistant Professor of Soil Microbiology: Dept. of Plant Soil and Environmental Science, University of Maine. August 2000 to August 2007.

EDUCATION

Post-Ph.D. 1998-2000. Department of Agronomy/The Energy Institute, The Pennsylvania State University.
Project title: Nitrogen saturation of forest soils.

Ph.D. 1997. Dept. of Microbiology, The University of Georgia, Athens, GA.
Dissertation Title: Sulfur transformations at the forest soil-water interface and in stream sediments.

B.S. 1991. Dept. of Biology, The University of New Mexico. Undergraduate Research
Theme: Contributions of methane to carbon cycling in 1st order streams.

PROFESSIONAL ACTIVITIES

Reviewer for Technical Reports and Scientific Journals:

Biogeochemistry Ecosystems
Soil Biology & Biochemistry Wetlands
Soil Science Society of America Journal Ecology

Prior service to profession and community mentoring:

Maine Science and Technology Fair
Maine MERITS Program DOE SURE Program

Prior service to University Community:

Reviewer: Plant, Soil, and Environmental Sciences Graduate Applications Comm.
Reviewer: Ecology and Environmental Sciences Graduate Applications Comm.
Member: Search Committee for Maine Soil Analysis Laboratory
Faculty Safety Representative for the Witter Farm Horse Barn Cooperative

TEACHING EXPERIENCE

Graduate Career:

Teaching and laboratory assistantships in General Microbiology, Clinical Microbiology, Human Anatomy and Physiology, Comparative Anatomy and Physiology, Microbiology for Allied Health Majors, Microbiology for Non-majors, and Soil Ecology.

2001-2009 Professional Career (University of Maine, Orono, ME)

BMB 410 Microbial Diversity: An upper division lecture exploring the wide diversity of bacteria, algae and fungi on the planet.

PSE 469 Soil Microbiology: An upper division lecture and laboratory course exploring the diversity and functional roles of soil microorganisms.

INT 482 Pesticides in the Environment: An exploration of the uses, impacts, and alternatives to chemical pesticide use in agricultural, forest, and aquatic environments.

PSE 569 Techniques in Environmental Microbiology: A graduate level lab-based class using modern microbiological and enzymatic techniques to investigate terrestrial and aquatic environments.

I have contributed one or more guest lectures in other courses including (1) Soil Chemistry and Plant Nutrition, (2) Isotope Geochemistry and (3) Soil and Water quality.

MENTORING

- Advised 4 Masters Students for the Ecology and Environmental Sciences and the George J. Mitchell Center for Water Research graduate programs.
- Advised 1 student in the University of New Mexico's Masters of Water Resource program
- Membership in over 20 graduate dissertation and thesis committees
- Served on 5 honors thesis committees
- Student advisement in the Ecology and Environmental Sciences undergraduate curriculum
- Directed 4 High school summer interns in the Maine MERITS program
- Directed 5 DOE-SURE collegiate interns for global change research

AWARDS AND FELLOWSHIPS

- 2015 **New Mexico Environment Department Employee of the Year**
- 2015 **New Mexico Environment Department Employee of the Quarter** (Q1, 2015)
- 2012 **World Meteorological Organization Norbert Gerbier-MUMM Award for Carbon-Climate Links** (as co-author), for the paper "Climate control of terrestrial carbon exchange across biomes and continents". Chuixiang Yi *et al.* (2010) *Environ. Res. Lett.* **5** 034007 doi: 10.1088/1748-9326/5/3/034007
- 2010 **Best Paper Award** (as co-author) "The Effects of Long-Term Forest N Enrichment and Acidification on Soil CNP Dynamics" F. Fatemi, Presenter. Soil Science Society of America 2010 meeting, The Forest, Range and Wildland Division (S7), Long Beach, CA.
- 2000 **USDA NRI Post-Doctoral Fellowship** "Abiotic nitrogen cycling in nitrogen-saturated soils"
- 1999 **NSF-TECO funded Post-doctoral Fellowship**, Department of Agronomy/The Energy Institute, The Pennsylvania State University.
- 1995 **Wildco Award for Best Oral Presentation in Basic Research**. North American Benthological Society annual meeting, Keystone, Colorado.

PUBLICATIONS

Fatemi FR, Fernandez IJ, Simon KS, and **DB Dail**. 2016. Nitrogen and phosphorus regulation of soil enzyme activities in acid forest soils. *Soil Biology and Biochemistry* 98:171-179.

Templer PH, Mack MC, Chapin III FS, Christenson LM, Compton JE, Crook HD, Currie WS, Curtis C, **Dail DB**, D'Antonio CM, Emmett BA, Epstein H, Goodale CL, Gundersen P, Hobbie SE, Holland K, Hooper DU, Hungate BA, Lamontagne S, Nadelhoffer KJ, Osenberg CW, Perakis SS, Schleppei P, Schimel J, Schmidt IK, Sommerkorn M, Spoolstra J, Tietema A, Wessel WW, and

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Dail DB, Davidson EA and Chorover J. 2001. Rapid abiotic immobilization of nitrate in an acid forest soil. *Biogeochemistry* **54**:131-146.

Dail DB and Fitzgerald JW. 1999. S cycling in soil and stream sediment: Influence of season and in situ concentrations of carbon, nitrogen and sulfur. *Soil Biology and Biochemistry* **31**: 1395-1404.

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**STATE OF NEW MEXICO
WATER QUALITY CONTROL COMMISSION**

**IN THE MATTER OF: PROPOSED AMENDMENTS
TO SURFACE WATER QUALITY STANDARDS
FOR DOG CANYON CREEK AND TECOLOTE
CREEK, 20.6.4 NMAC**

WQCC 17-04(R)

DIRECT TECHNICAL TESTIMONY OF BRYAN DAIL

I. INTRODUCTION

My name is Bryan Dail. I am currently employed as an Environmental Scientist with the New Mexico Environment Department Surface Water Quality Bureau (“SWQB”). I have a Bachelor’s degree in Biology with Chemistry as a minor, and a Ph.D. in Microbiology. I have worked in the SWQB for 4.5 years. Previously, I worked for 12 years as an Assistant Research Professor of Soil Microbiology, investigating nutrient cycling in forests and watersheds. My professional resume is provided in **NMED Exhibit 3**. It is accurate and up to date.

The testimony I am presenting here concerns two proposals to amend water quality standards. The two proposals are recommendations based on Use Attainability Analyses (“UAA”) conducted for Tecolote Creek and Dog Canyon Creek (**NMED Exhibits 11 and 12**). I will present the bases for the proposed amendments in the order mentioned above.

II. TECHNICAL SUPPORT

A. TECOLOTE CREEK PROPOSAL

The SWQB has conducted a UAA for portions of Tecolote Creek, a tributary of the Pecos River. This UAA concludes that the designated high quality coldwater aquatic life use (“ALU”) is not attainable for portions of Tecolote Creek, and recommends a change to coolwater ALU for perennial reaches from Interstate 25 (I-25) to Blue Creek. To change the designated ALU for Tecolote Creek upstream of I-25 to the confluence with Blue Creek, it will be necessary to amend an existing segment (20.6.4.215 NMAC) and create a new segment (20.6.4.230 NMAC), as

1 described by the testimony of Ms. Fullam, to differentiate Tecolote Creek headwaters and
2 tributaries from lower portions of Tecolote Creek. If approved, the segment-specific criterion for
3 specific conductance would no longer apply to the new, coolwater ALU segment and thus it is
4 removed in the proposed language for 20.6.4.230 NMAC. Water quality data collected by the
5 SWQB in 2001, 2010 and 2016, fish community data from numerous aquatic life surveys, an
6 ecoregional analysis, and Air-Water temperature correlation modeling all support the proposed
7 amendments to 20.6.4 NMAC.

8 **B. BASIS FOR THE TECOLOTE CREEK PROPOSAL**

9 The basis for this proposal is the Tecolote Creek UAA (NMED Exhibit 11). Perennial
10 reaches of Tecolote Creek are currently designated as high quality coldwater aquatic life
11 (“HQCWAL”; 20.6.4.215 NMAC). Tecolote Creek arises from the southeast slope of Elk
12 Mountain in the southernmost portion of the Rocky Mountain Range in the Sangre de Cristo
13 Mountains, flowing downstream to its confluence with the Pecos River at Tecolotito, New Mexico.
14 The creek originates in sub-alpine forest above 9400 feet (ft.) in elevation, then descends into mid-
15 elevation mixed conifer and ponderosa pine forest. Tecolote Creek continues to flow through
16 piñon-juniper woodlands and savannas, crossing I-25, where it becomes non-perennial for 26 miles
17 before joining the Pecos River at an elevation of 5340 ft.

18 Perennial portions of Tecolote Creek, upstream of I-25, were first listed as not supporting
19 the HQCWAL use due to temperature and specific conductance in 1996. In 2004, Tecolote Creek
20 was split into two assessment units, and the portion from I-25 to Blue Creek has remained impaired
21 in subsequent years. SWQB noted in the Record of Decision that the HQCW ALU may not be
22 appropriate and a review of the use was warranted (NMED/SWQB, 2016).

23 The SWQB conducted this UAA to determine the most protective, naturally attainable
24 ALU using physical, ecological and biological settings as parameters for investigation. This UAA

1 considers the ecoregional setting of Tecolote Creek, evaluates existing and modelled Air-Water
2 temperature data, and analyzes fish community data.

3 **Ecoregional Analysis:**

4 Ecoregions are geographic areas of similar characteristics including elevation, geology, air
5 temperature, precipitation, terrain, soils, and vegetation. These factors help to identify water
6 quality standards segments, assessment units, and probable influences on stream chemistry and
7 habitat. They are designed to serve as a spatial framework for the research, assessment,
8 management and monitoring of ecosystems and ecosystem components. Ecoregion numbers, such
9 as 21 (Southern Rockies) and 26 (Southwestern Tablelands), are subdivided into more detailed
10 categories, such as 21f (Sedimentary Mid-Elevation Forests) and 26h (Pinyon-Juniper Woodlands
11 and Savannas).

12 Ecoregion characteristics of the Tecolote Creek watershed are summarized in Table 2 of
13 **NMED Exhibit 11**. As shown in Figure 3 of the UAA, Tecolote Creek upstream of I-25 flows
14 through Ecoregion 21-Southern Rockies and Ecoregion 26-Southwestern Tablelands, as well as
15 five Level IV ecoregional subcategories ranging from subalpine forests to shrublands and savannas
16 (Griffith, *et al*, 2006). The Level IV subcategories in New Mexico were classified by Jessup, *et al.*,
17 (2010) into three generalized groups – Mountains, Foothills, and Xeric – based on principal
18 component analysis of habitat variables. According to Jessup, *et al.*, these classes also roughly
19 correspond to coldwater, coolwater, and warmwater ALUs, respectively.

20 The Tecolote Creek headwaters originate in the Sangre de Cristo Mountains within Level
21 IV Ecoregions 21b (Mountains) and 21c (Mountains). In fact, the Assessment Unit (“AU”)
22 upstream of Blue Creek is entirely within the “Mountains” category. However, the AU from I-25
23 to Blue Creek is roughly evenly divided between Ecoregions 21f (Mountains), 21d (Foothills), and

1 26h (Xeric), with 21d being a transition zone between 21 and 26. As described in Table 2 of the
2 UAA, these three subcategories are lower, warmer and typically drier than 21b and 21c.

3 **Air-Water Temperature Correlation Model:**

4 Numeric water quality temperature criteria for specific ALUs under New Mexico's water
5 quality standards are expressed in terms of maximum temperature ("T_{MAX}"), the temperature not
6 to be exceeded for four or more consecutive hours in a 24-hour period on more than three
7 consecutive days ("4T3"), and the temperature not to be exceeded for six or more consecutive
8 hours in a 24-hour period on more than three consecutive days ("6T3") (20.6.4.7 NMAC and
9 20.6.4.900.H NMAC). Additionally, the Maximum Weekly Average Temperature ("MWAT") is
10 calculated from daily temperature measurements averaged over the seven contiguous days of
11 highest daily averages from the record. New Mexico's water quality standards do not require the
12 use of the MWAT for temperature assessments; however, a large body of comparative literature
13 exists relating MWAT to thermal requirements of freshwater fish (Brungs and Jones, 1977).

14 The SWQB developed an Air-Water Temperature Correlation ("AWTC") model for
15 New Mexico streams. The AWTC model allows for the estimation of attainable MWAT, T_{MAX},
16 4T3 and 6T3 water temperatures given the 30-year July average ambient air temperature
17 ("ATEMP") for a given area (NMED/SWQB, 2011). The model was based on recorded
18 thermograph data from 293 New Mexico stream locations and assumes that, in streams which do
19 not receive groundwater inputs sufficient to change the water temperature, air temperature has the
20 greatest influence on stream temperature (Bartholow, 2002). It has been shown through the AWTC
21 that ATEMP as determined through the Parameter-elevation Regression on Independent Slopes
22 Model ("PRISM") is nearly equivalent to the MWAT. The predicted T_{MAX}, 4T3, or 6T3 can be
23 calculated from ATEMP using correlation equations.

1 Measured water temperature for the stations in the Tecolote Creek AU upstream of Blue
2 Creek to the headwaters and at the top of the AU Tecolote Creek (I-25 to Blue Creek) were several
3 degrees cooler than the AWTC model predicted, with or without correcting for air temperature
4 departure from normal. This difference could be the result of groundwater input above the
5 monitoring stations. Groundwater inputs sufficient to moderate the influence of ambient air
6 temperature on water temperature may be indicated by reduced diel swings in water temperature.
7 To evaluate this possibility, the thermograph records from downstream of the Santa Fe National
8 Forest Boundary and at Blue Haven were examined for indications of groundwater input. The diel
9 swings at both stations were slightly reduced in amplitude compared to the downstream monitoring
10 site at San Geronimo, but not enough to definitively indicate a groundwater influence. In any case,
11 Tecolote Creek upstream of Blue Creek can and does meet its current HQCW ALU standard
12 (Figure 5, **NMED Exhibit 11**).

13 For all Tecolote Creek monitoring stations examined in the UAA, ATEMP is between 18°C
14 and 23°C, hence the model predicts that marginal coldwater or coolwater may be the most
15 protective ALU attainable (Tables 4a and 4b, **NMED Exhibit 11**). The marginal coldwater and
16 coolwater ALUs both have T_{MAX} criteria of 29°C, but these uses describe different habitats.
17 Coolwater describes habitat that is naturally intermediate between cold and warm. Marginal
18 coldwater refers to habitat where natural intermittent or low flows, or other natural habitat
19 conditions, severely limit maintenance of a coldwater aquatic life population, and these conditions
20 are not known to exist in Tecolote Creek. Based on these habitat descriptions, coolwater aquatic
21 life is more appropriate for Tecolote Creek.

22 **Fish community:**

23 The fish community of a water body is an indicator of habitat elements such as water
24 temperature. Fish species have temperature requirements for various life stages, and assigning

1 precise temperature range is challenging. In general, however, thermal categories can be described
2 as cold, intermediate or cool, and warm. SWQB places fish species into these categories based on
3 scientific consensus, review of the available research, and best professional judgment. In
4 developing this UAA, SWQB conducted a review of fish species documented in Tecolote Creek
5 (Table 5, **NMED Exhibit 11**). Only coldwater species have been documented in the Tecolote
6 Creek AU between Blue Creek and the headwaters. A few specimens of a coldwater species
7 (brown trout) were found at San Geronimo in the upper portion of the Tecolote Creek AU between
8 I-25 to Blue Creek, and a few specimens of a warmwater species (green sunfish) were found further
9 downstream in the same AU at I-25, but this AU is dominated by coolwater species. Available
10 historic (1939-1975) records indicate that fish species composition has remained relatively stable
11 within the past 80 years.

12 **C. CONCLUSION FOR THE TECOLOTE CREEK PROPOSAL**

13 The high quality coldwater ALU for the Tecolote Creek between I-25 and Blue Creek is
14 not attainable because “naturally occurring pollutant concentrations [thermal energy] prevent the
15 attainment of the use” The ecoregional setting, ambient air temperatures, and fish community
16 of Tecolote Creek all support this conclusion. Based on the evidence provided in the UAA,
17 coolwater is the most protective, attainable ALU for Tecolote Creek from I-25 to Blue Creek (AU
18 NM-2212_10), and high quality coldwater is (still) the most protective, attainable ALU for
19 Tecolote Creek upstream of the confluence with Blue Creek.

20 As described in Ms. Fullam’s technical testimony, the SWQB proposes to amend
21 20.6.4.215 NMAC, and to create a new coolwater ALU water quality segment, 20.6.4.230 NMAC,
22 to afford the proper protections for Tecolote Creek, a tributary of the Pecos River.

1 **D. DOG CANYON CREEK PROPOSAL**

2 The SWQB also conducted a UAA for perennial portions of Dog Canyon Creek in Otero
3 County. This UAA concludes that the designated coldwater ALU is not attainable for perennial
4 portions of Dog Canyon Creek, and recommends a change to coolwater aquatic life for this water
5 body. To change the designated ALU for Dog Canyon Creek, it will be necessary to amend an
6 existing segment (20.6.4.801 NMAC), and create a new water quality standards segment
7 (20.6.4.810 NMAC), as described in Ms. Fullam’s testimony. Water quality data, an ecoregional
8 analysis, and Air-Water temperature correlation (“AWTC”) modeling all support the proposed
9 amendment to 20.6.4 NMAC.

10 **E. BASIS FOR DOG CANYON CREEK PROPOSAL**

11 The basis for this proposal is the Dog Canyon Creek UAA (NMED Exhibit 12). Perennial
12 reaches of Dog Canyon Creek are currently designated with a coldwater aquatic life (“CWAL”)
13 use (20.6.4.801 NMAC). Dog Canyon Creek is in the Tularosa Valley closed basin in southern
14 New Mexico. Waters in a closed or “endorheic” basin are retained and do not join or flow to other
15 significant waters, seas or oceans. Dog Canyon is one of several large erosional canyons that begin
16 in the conifer forest of the Sacramento Mountains and end in the Chihuahuan Desert of the
17 Tularosa Valley. Two perennial reaches exist: Dog Canyon Creek at the Nature Trail, and Dog
18 Canyon Creek at Line Cabin (Figures 1-3, NMED Exhibit 12).

19 Dog Canyon Creek was first listed as not supporting its CWAL use due to temperature in
20 2006. Subsequent data collections in 2010 and 2012 confirmed the impairment. However, SWQB
21 noted in the Record of Decision that the CWAL use may not be appropriate and a review of the
22 use was warranted (NMED/SWQB, 2016).

23 The SWQB conducted this UAA to determine the most protective, naturally attainable
24 ALU using physical, ecological, and biological settings as parameters for investigation. This UAA

1 considers the ecoregional setting of Dog Canyon Creek and evaluates existing and modeled Air-
2 Water temperature data, and investigates fish community and other aquatic life data.

3 **Ecoregional Analysis:**

4 Ecoregion characteristics of the Dog Canyon Creek watershed are summarized in Table 1
5 of **NMED Exhibit 12**. As shown in Figure 4 of the UAA, Dog Canyon Creek flows through
6 Ecoregion 23-Arizona-New Mexico Mountains and Ecoregion 24-Chihuahuán Deserts, as well as
7 four Level IV ecoregional subcategories ranging from conifer forests to woodlands to desert slopes
8 and basins (Griffith, *et al.*, 2006). As explained earlier, the Level IV subcategories in New Mexico
9 were classified by Jessup, *et al.*, (2010) into three generalized groups – Mountains, Foothills, and
10 Xeric. According to Jessup, *et al.*, these classes also roughly correspond to coldwater, coolwater,
11 and warmwater ALUs, respectively.

12 The highest elevation of Dog Canyon Creek is located at 9000 ft. in Ecoregion 23f
13 (Mountains). This ecoregion supports conifer forests and moderate to high gradient intermittent
14 and some perennial streams. Dog Canyon continues through Ecoregion 23b (Foothills), which is
15 lower in elevation and consequently warmer and drier than Ecoregion 23f. Vegetation is primarily
16 woodland and hydrologic conditions are mostly intermittent with a few perennial streams. The
17 creek forms a steep canyon through Ecoregion 23a (Foothills), which is lower in elevation and
18 even warmer and drier than Ecoregion 23b. Vegetation consists of shrub and grassland, and surface
19 water is limited to springs and ephemeral streams. The mouth of Dog Canyon Creek marks a
20 transition to the Chihuahuan Desert in Ecoregion 24a (Xeric), where it drains into the Tularosa
21 Valley Closed Basin. The two perennial reaches and their respective water quality monitoring
22 stations; 48DogCan002.7 at the “Nature Trail” and 48DogCan005.9 at “Line Cabin,” occur in the
23 23a and 23b Foothill ecoregions, respectively.

1 **Air-Water Temperature Correlation Model:**

2 SWQB conducted monitoring of Dog Canyon Creek in 2004, 2010, and 2012, and
3 deployed water thermographs in the summer months of 2010 and 2012. Observed maximum water
4 temperatures (T_{MAX}) for Dog Canyon Creek were several degrees cooler than the AWTC model
5 predicted; however, they still exceeded the CWAL T_{MAX} criterion of 24°C (Table 3, **NMED**
6 **Exhibit 12**).

7 Average July ambient air temperatures (“ATEMP”) were obtained from PRISM.
8 According to the AWTC model, the July T_{MAX} in Dog Canyon Creek may exceed 29°C naturally.
9 However, the perennial reaches of the creek are localized and spring fed. Observed water
10 temperatures at both locations were cooler than predicted by ambient air temperature alone (Table
11 3, **NMED Exhibit 12**). These data indicate the attainable conditions for perennial reaches of Dog
12 Canyon Creek are more closely associated with a coolwater ALU than the current coldwater ALU.

13 **Aquatic Life:**

14 New Mexico’s ALUs and associated criteria protect the aquatic community based on
15 physiologic thermal tolerances. Fish community data are often used to identify an appropriate ALU
16 based on water temperature. Where the fish community is mixed regarding thermal preferences, a
17 preponderance of evidence is used to best assess the most probable or natural state of the water
18 body. SWQB requested fish collection records for the Tularosa Valley Closed Basin from the
19 Museum of Southwest Biology (UNM, 2014). There were no records from Dog Canyon Creek.
20 According to Oliver Lee Memorial State Park’s management plan, the isolated perennial reaches
21 of Dog Canyon Creek support a thriving riparian and aquatic system of wildlife, birds, insects and
22 amphibians, but no fish (EMNRD, 2001). There is no evidence that a fish community ever has
23 existed in these reaches.

1 **F. CONCLUSION FOR THE DOG CANYON CREEK PROPOSAL**

2 The CWAL use for perennial reaches of Dog Canyon Creek is not attainable because
3 “naturally occurring pollutant concentrations [thermal energy] prevent the attainment of the
4 use” The ecoregional setting, ambient air temperatures, and aquatic life community of Dog
5 Canyon Creek all support this conclusion. Based on the evidence provided in the UAA, coolwater
6 is the highest attainable ALU for perennial reaches of Dog Canyon Creek in Otero County.

7 As described in Ms. Fullam’s technical testimony, the SWQB proposes to amend the
8 existing standards segment, 20.6.4.801 NMAC, and create a new coolwater ALU water quality
9 standards segment, 20.6.4.810 NMAC, to afford the proper protections for Dog Canyon Creek.

10 **III. RECOMMENDATION**

11 The SWQB recommends the WQCC approve the changes to amend segment 20.6.4.215
12 NMAC and create the segment 20.6.4.230 NMAC based on the UAA conducted for Tecolote
13 Creek, such that the most protective, attainable ALUs and criteria are designated. The SWQB also
14 recommends the WQCC approve changes to amend segment 20.6.4.801 NMAC and create
15 segment 20.6.4.810 NMAC based on the UAA conducted for Dog Canyon Creek, to assign the
16 most protective, attainable ALUs and criteria.

17 Once approved by the WQCC and adopted as standards, the SWQB will submit the
18 revised water quality standards (as will be published in the New Mexico Register) to the United
19 States Environmental Protection Agency for formal review and final approval action under the
20 Clean Water Act § 303(c).

21 This concludes my direct testimony.



SUSANA MARTINEZ
Governor
JOHN A. SANCHEZ
Lt. Governor

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Cabinet Secretary
J. C. BORREGO
Deputy Secretary

NEW MEXICO ENVIRONMENT DEPARTMENT, SURFACE WATER QUALITY BUREAU PROPOSES WATER QUALITY STANDARDS CHANGE FOR TECOLOTE CREEK IN SAN MIGUEL COUNTY, NEW MEXICO AND DOG CANYON CREEK IN OTERO COUNTY, NEW MEXICO

NOTICE OF PUBLIC COMMENT PERIOD AND COMMUNITY MEETING

The New Mexico Environment Department's (NMED) Surface Water Quality Bureau (SWQB) invites the public to comment on the draft Use Attainability Analyses (UAAs) and proposed amendments to surface water quality standards (20.6.4 NMAC) for Tecolote Creek in San Miguel County, New Mexico and Dog Canyon Creek in Otero County, New Mexico.

As required by the federal Clean Water Act and the New Mexico Water Quality Act, the state has established water quality standards for its surface waters. Water quality standards (WQS) identify the water quality goals of a water body, or portion thereof, by designating the use or uses of the water and by setting criteria that protect those designated uses.

A UAA is a scientific study that assesses the factors affecting the attainment of a designated use. In accordance with 40 CFR 131 and 20.6.4.15 NMAC, the Department has conducted UAAs for Tecolote Creek in San Miguel County and Dog Canyon Creek in Otero County. The draft UAAs along with the proposed water quality standards amendment under 20.6.4 NMAC, are available on the SWQB website at <https://www.env.nm.gov/surface-water-quality/wqs/>.

The comment period for this proposal begins September 1, 2017 and closes October 2, 2017 at 5:00 p.m. MST. Comments for inclusion in the public record must be submitted in writing to Bryan Dail at NMED-SWQB, P.O. Box 5469, Santa Fe, NM, 87502; or by e-mail: bryan.dail@state.nm.us; or by fax to 505-827-0160, ATTN: Bryan Dail.

Public meetings will be held to present and discuss the draft UAAs, including the proposed water quality standards amendment, and to provide a forum for interested parties to ask questions. The meeting for Dog Canyon Creek will be held at the Alamogordo Public Library, 920 Oregon Avenue in Alamogordo, New Mexico on September 18, 2017, from 5:30 pm to 6:30 pm. The meeting for Tecolote Creek will be held at the New Mexico Highlands University Student Union Building, Room 322, 800 National Avenue in Las Vegas, New Mexico on September 28, 2017, from 5:30 pm to 6:30 pm.

Persons having a disability and needing help in being a part of this public process should contact the NMED Human Resources Bureau at least 10 days before the event, at P.O. Box 5469, 1190 St. Francis Drive, Santa Fe, New Mexico, 87502, telephone 505-827-9769. TDY users please access HRB via the New Mexico Relay Network at 1-800-659-8331.

For more information, please contact Bryan Dail at 505-476-3799 or bryan.dail@state.nm.us.

NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, you may contact: Kristine Pintado, Non-Discrimination Coordinator, New Mexico Environment Department, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. If you believe that you have been discriminated against with respect to a NMED program or activity, you may contact the Non-Discrimination Coordinator identified above.

LA OFICINA DE LA CALIDAD DE AGUAS SUPERFICIALES DEL DEPARTAMENTO DE MEDIO AMBIENTE DE NUEVO MÉXICO PROPONE UN CAMBIO EN LAS NORMAS DE CALIDAD DE LAS AGUAS DE TECOLOTE CREEK EN EL CONDADO DE SAN MIGUEL, NUEVO MÉXICO Y DOG CANYON CREEK EN EL CONDADO DE OTERO, NUEVO MÉXICO

AVISO SOBRE UN PERIODO DE COMENTARIOS PÚBLICOS Y REUNIÓN CON LA COMUNIDAD

La Oficina de la Calidad de Aguas Superficiales (SWQB, por sus siglas en inglés) del Departamento de Medio Ambiente de Nuevo México (NMED, por sus siglas en inglés) invita al público a ofrecer sus comentarios sobre un Análisis de Factibilidad de Uso (UAAs, por sus siglas en inglés) preliminar y sobre las enmiendas propuestas en torno a las normas de la calidad de las aguas superficiales (20.6.4 NMAC) de Tecolote Creek en el condado de San Miguel, Nuevo México y Dog Canyon Creek en el condado de Otero, Nuevo México.

Como lo exigen la Ley Federal de Aguas Limpias y la Ley de la Calidad de las Aguas de Nuevo México, el estado ha establecido normas de calidad en torno a las aguas superficiales. Las normas de calidad de las aguas (WQS, por sus siglas en inglés) determinan los objetivos en cuanto a la calidad de las aguas de una masa de agua, o una porción de la misma, mediante la designación del uso o los usos de las aguas y el establecimiento de criterios que protegen dichos usos designados.

Un UAA es un estudio científico que evalúa los factores que afectan la realización de un uso designado. De conformidad con los requisitos de 40 CFR y 20.6.4.15 NMAC, el Departamento ha llevado a cabo un UAA de Tecolote Creek en el Condado de San Miguel y un UAA de Dog Canyon Creek en el Condado de Otero. Los UAAs preliminar, junto con las enmiendas de las

normas de calidad de las aguas que se han propuesto referente a 20.6.4 NMAC están disponibles en el sitio web de SWQB en <https://www.env.nm.gov/surface-water-quality/wqs/>.

El periodo para ofrecer comentarios sobre esta propuesta preliminar empieza el 1 de septiembre de 2017 y termina el 2 de octubre de 2017 a las 5 p.m. MST (horas de la región de las montañas). Los comentarios que se quieran incluir en los registros públicos deben ser enviados por escrito a Bryan Dail en NMED-SWQB, P.O. Box 5469 Santa Fe, NM, 87502; o por correo electrónico a: bryan.dail@state.nm.us; o por fax a 505-827-0160, ATTN: Bryan Dail.

Se llevarán a cabo una reuniones públicas para presentar y discutir los UAAs preliminar incluso las enmiendas propuestas sobre las normas de calidad de las aguas, y para proporcionar un foro en el cual las partes interesadas puedan hacer preguntas. Para Dog Canyon Creek, la reunión tendrá lugar en Alamogordo Public Library, 920 Oregon Avenue en Alamogordo, Nuevo México, el día 18 de septiembre de 2017, de las 5:30 pm a las 6:30 pm. Para Tecolote Creek, la reunión tendrá lugar en New Mexico Highlands University Student Union Building, Room 322, 800 National Avenue en Las Vegas, Nuevo México, el día 28 de septiembre de 2017, de las 5:30 pm a las 6:30 pm.

Las personas que tengan una discapacidad o que necesiten ayuda para tomar parte en este proceso público deberán comunicarse por lo menos 10 días antes del evento con la Oficina de Recursos Humanos de NMED en P.O. Box 5469, 1190 St. Francis Drive, Santa Fe, Nuevo México, 87502, teléfono 505-827-9769. Se les pide a los usuarios de TDY que se comuniquen con la Oficina de Recursos Humanos a través de la Red de Difusión de Nuevo México llamando al 1-800-659-8331.

Para mayor información, comuníquese con Bryan Dail al 505-476-3799 o bryan.dail@state.nm.us.

El Departamento del Medio Ambiente de Nuevo México (NMED, por su sigla en inglés) no discrimina por motivos de raza, color, origen nacional, discapacidad, edad o sexo en la administración de sus programas o actividades, según lo exigido por las leyes y los reglamentos correspondientes. El NMED es responsable de la coordinación de esfuerzos para el cumplimiento de las reglas y la recepción de indagaciones relativas a los requisitos de no discriminación implementados por 40 C.F.R. Parte 7, que incluye el Título VI de la Ley de Derechos Civiles de 1964, como fuera enmendado; la Sección 504 de la Ley de Rehabilitación de 1973; la Ley de Discriminación por Edad de 1975; el Título IX de las Enmiendas de Educación de 1972; y la Sección 13 de las Enmiendas a la Ley Federal de Control de la Contaminación del Agua de 1972. Si tiene preguntas sobre este aviso o sobre cualquier programa de no discriminación, norma o procedimiento de NMED, puede comunicarse con la Coordinadora de No Discriminación: Kristine Pintado, Non-Discrimination Coordinator, New Mexico Environment Department, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. Si piensa que ha sido discriminado con respecto a un programa o actividad de NMED, puede comunicarse con la Coordinadora de No Discriminación antes indicada o visitar nuestro sitio web en <https://www.env.nm.gov/NMED/EJ/index.html> para saber cómo y dónde presentar una queja por discriminación.

Meeting Sign-In Sheet

New Mexico Environment Department/Surface Water Quality Bureau
 Dog Canyon Creek Use Attainability Analysis Public Meeting
 Alamogordo Public Library
 September 18, 2017

Name/Signature	Organization (if applicable)	Contact email	Phone number	Do you wish to receive the Bureau's email notifications? (Y/N)
<i>Shirley Harting</i>				
<i>Sharon Livingston</i>		<i>sharon.livingston@comcast.net</i>		F

GOVERNOR
Susana Martinez



DIRECTOR AND SECRETARY
TO THE COMMISSION
Alexandra Sandoval

DEPUTY DIRECTOR
Donald L. Jaramillo

STATE OF NEW MEXICO
DEPARTMENT OF GAME & FISH

One Wildlife Way, Santa Fe, NM 87507
Post Office Box 25112, Santa Fe, NM 87504
Tel: (505) 476-8000 | Fax: (505) 476-8123
For information call: (888) 248-6866

www.wildlife.state.nm.us

Dog Canyon
STATE GAME COMMISSION

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Clamaron
ELIZABETH A. RYAN
Roswell
THOMAS "DICK" SALOPEK
Las Cruces

19 September 2017

Mr. Bryan Dail
NMED-SWQB
P.O. Box 5469
Santa Fe, NM 87502

RE: Use Attainability Analyses for Dog Canyon Creek and Tecolote Creek; NMDGF No. 18021 and 18022

Dear Bryan Dail:

The Department of Game and Fish (Department) has reviewed the Use Attainability Analyses (UAA) for Dog Canyon Creek and Tecolote Creek, and provides the following comments.

The Department acknowledges that Dog Canyon Creek is a mostly ephemeral stream with no known fisheries resources. A coolwater aquatic life designation is appropriate for this stream.

The UAA for Tecolote Creek mostly aligns with the Department's 2016 Statewide Fisheries Management Plan (Plan). The Plan defines the stream segment from Falls Creek to the headwaters as a wild trout fishery. The Department generally agrees that the lower portion of the stream segment under analysis is not supportive of high quality coldwater aquatic life, and that coolwater aquatic life is a more appropriate designation for this reach. However, the UAA indicates that brown trout, Rio Grande chub, and longnose dace were present in this lower portion of the analysis reach at the bridge near San Geronimo, suggesting a transition zone supportive of both coldwater and coolwater aquatic life. We suggest further coordination with the Department to identify the break point between coldwater and coolwater designations that best integrates ecoregional, temperature, and aquatic life use considerations.

Thank you for the opportunity to review and comment on the Use Attainability Analyses. If you have any questions, please contact Malia Volke, Aquatic and Riparian Habitat Specialist, at 505-476-8160 or malia.volke@state.nm.us.

Sincerely,

A handwritten signature in black ink, appearing to read "Matt Wunder".

Matt Wunder, Ph.D.
Chief, Ecological and Environmental Planning Division

cc: USFWS NMES Field Office



**NEW MEXICO
ENVIRONMENT DEPARTMENT**



SUSANA MARTINEZ
Governor

JOHN A. SANCHEZ
Lt. Governor

Harold Runnels Building
1190 South St. Francis Drive (87505)
P.O. Box 5469, Santa Fe, NM 87502-5469
Phone (505) 827-0187 Fax (505) 827-0160
www.env.nm.gov

BUTCH TONGATE
Cabinet Secretary

J. C. BORREGO
Deputy Secretary

October 25, 2017

Matt Wunder, Ph.D.
Chief, Ecological and Environmental Planning Division
New Mexico Department of Game and Fish
P.O. Box 25112
Santa Fe, New Mexico 87504

Subject: Use Attainability Analysis for Tecolote Creek

Dear Dr. Wunder:

The New Mexico Environment Department (NMED) would first like to express our appreciation for the Agency's prompt response to the findings of the Surface Water Quality Bureau's (SWQB's) Use Attainability Analyses (UAA) for Dog Canyon Creek and Tecolote Creek. It is the intent of these notices to illicit information pertinent to establishing an appropriate designated use, as it applies to the federal Clean Water Act, which reflects the highest attainable condition for a waterbody. The State's Water Quality Standards for aquatic life uses establish ambient conditions, specifically dissolved oxygen, pH, and temperature, a waterbody is likely to reach that would still be conducive for the designated aquatic life. The SWQB acknowledges that these aquatic life use designations differ slightly from the New Mexico Department of Game and Fish's management plan in the sense that these designated uses do not preclude a species from being present at any given point in time, it is just that the conditions for a particular waterbody segment are not conducive for that species at all life phases or as year-round habitat.

In the Tecolote UAA, the SWQB has proposed a segment break, delineating between the high quality coldwater aquatic life use and the coolwater aquatic life use, just downstream of the convergence of Blue Creek and Tecolote Creek. This segment break was derived from ecoregional delineations that take into account climate, geology, vegetation and physiography, surface water quality data collection and modeling. The SWQB believes that the aquatic life surveys indicate and support varied aquatic life use within the segment between Blue Creek and San Geronimo, most likely as seasonal or transitional habitat use. This data seems to be supported with information obtained from the New Mexico Game and Fish management plan.

Following up from a discussion between Malia Volke with New Mexico Game and Fish and the Surface Water Quality Bureau's staff on October 4, 2017, the Surface Water Quality Bureau is amicable to evaluating the geographical point in which to delineate the high quality cold water aquatic life use from the coolwater aquatic life use pending defensible evidence to support the change. The SWQB would like to solicit any documentation or data from the New Mexico Department of Game and Fish which would scientifically support an alternate geographical

segment break between the high quality coldwater aquatic life use and the coolwater aquatic life. The data along with the proposed alternate segment break should demonstrate the temporal and geographical extent of any coldwater species distribution, age class structure of the population which supports the determination of a stable and reproductively successful population within the summer months where maximum water temperatures are typically reached and thus water quality standards must meet attainment.

In order to adequately evaluate and potentially incorporate these data sets into the UAA being submitted to the Water Quality Control Commission at the January 9, 2018 hearing, the SWQB is requesting the applicable information be submitted by November 17, 2017. If you have any questions, please contact Jennifer Fullam at 505-827-2637 or Bryan Dail at 505-476-3799.

Sincerely,



Shelly Lemon,
Chief, Surface Water Quality Bureau
New Mexico Environment Department

Cc: Malia Volke, NM Department of Game and Fish (via electronic transmission)
Kris Barrios, NMED Surface Water Quality Bureau (via electronic transmission)
Jennifer Fullam, NMED Surface Water Quality Bureau (via electronic transmission)
Bryan Dail, NMED Surface Water Quality Bureau (via electronic transmission)

**STATE OF NEW MEXICO
BEFORE THE WATER QUALITY CONTROL COMMISSION**

_____)
In the Matter of:)

**PROPOSED AMENDMENTS TO)
SURFACE WATER QUALITY)
STANDARDS FOR DOG CANYON)
AND TECOLOTE CREEK,)
20.6.4 NMAC)**
_____)

No. WQCC 17-04 (R)

**STATEMENT OF REASONS FOR PROPOSED AMENDMENTS
TO SURFACE WATER QUALITY STANDARDS FOR
DOG CANYON AND TECOLOTE CREEK 20.6.4 NMAC**

The New Mexico Environment Department (“Department”) Surface Water Quality Bureau (“Bureau”) proposes the amendment of 20.6.4.215 NMAC and 20.6.4.801 NMAC, and the adoption of new water quality segments: 20.6.4.230 NMAC – *Tecolote creek from I-25 to Blue Creek*; and 20.6.4.810 NMAC – *Perennial Reaches of Dog Canyon creek*, for the following reasons:

1. The Department’s Surface Water Quality Bureau (“SWQB”) conducted Use Attainability Analyses (“UAAs”) in accordance with 40 C.F.R. § 131.10(g) (Appendix A) to determine the most appropriate and protective aquatic life use for the perennial portions of Dog Canyon Creek in Otero County, New Mexico, and portions of Tecolote Creek in San Miguel County, New Mexico.
2. The coldwater and high quality coldwater aquatic life uses are not attainable because “naturally occurring pollutant concentrations (i.e., high water temperatures resulting from natural ambient air temperatures) prevent the attainment of the [aquatic life] use” (40 C.F.R. § 131.10(g)(1)).
3. The UAAs demonstrate that a coolwater aquatic life use is the most protective aquatic life use that is naturally attainable in these waters.
4. To implement this standards change, it will be necessary to amend 20.6.4.215 NMAC and 20.6.4.801 NMAC, and to adopt two new water quality segments: 20.6.4.230 NMAC – *Tecolote creek from I-25 to Blue creek*; and 20.6.4.810 NMAC – *Perennial reaches of Dog Canyon creek*.

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NEW MEXICO WATER QUALITY CONTROL COMMISSION NOTICE OF PUBLIC HEARING TO CONSIDER PROPOSED AMENDMENTS TO 20.6.4 NMAC - STANDARDS FOR INTERSTATE AND INTRASTATE SURFACE WATERS - FOR DOG CANYON CREEK AND TECOLOTE CREEK, WQCC 17-04(R)

The New Mexico Water Quality Control Commission (Commission) will hold a public hearing on Tuesday, January 9, 2018, and continuing on subsequent days, as necessary, at Mabry Hall, Jerry Apodaca Education Building 300 Don Gaspar, Santa Fe, New Mexico 87501. The purpose of the hearing is to consider amendments to the Standards for Interstate and Intrastate Surface Waters, 20.6.4 NMAC. The WQCC will begin its regular monthly meeting at 9:00 am, and the public hearing will begin at the conclusion of its regular business. The hearing location may change prior to the hearing date, and those interested in attending should check the Commission website: <http://www.env.nm.gov/wqcc> prior to the hearing. The proposed amendments to 20.6.4 NMAC, submitted by the New Mexico Environment Department (Department) and docketed as WQCC 17-04 (R), propose changes to

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NMED EXHIBIT 10

the aquatic life use classifications of Dog Canyon Creek in Otero County and portions of Tecolote Creek in San Miguel County. The Department's petition and proposed amendments are available on the Department's website, at <https://www.env.nm.gov/surface-water-quality/wqs/>. The petition may also be obtained electronically or reviewed in person by contacting Pam Castaneda, Commission Administrator, 1190 S. St. Francis Drive, Santa Fe, New Mexico 87502, (505) 827-2425 or pam.castaneda@state.nm.us. The hearing will be conducted in accordance with the New Mexico Water Quality Act, NMSA 1978, § 74-6-6, and the Rulemaking Procedures for the Water Quality Control Commission, 20.1.6 NMAC. Any person, including the petitioner, who intends to present technical or rebuttal testimony at the hearing must file a notice of intent to present technical testimony with the Commission Administrator no later than December 20, 2017. The notice shall: 1. Identify the person for whom the witness(es) will testify; 2. Identify each technical witness the person intends to present, and state the qualifications of that witness, including a description of their educational and work background; 3. If the hearing will be conducted at multiple locations, indicate the location or locations at which the witness will be present; 4. Include a copy of the direct testimony of each technical witness in narrative form,

and state the estimated duration of the direct oral testimony of that witness; 5. Include the text of any recommended modifications to the proposed regulatory change and a statement of basis; and 6. List and attach all exhibits anticipated to be offered by that person at the hearing. Any member of the general public may present non-technical testimony and exhibits at the hearing so long as the exhibit is not unduly repetitious of the testimony. No prior notification is required. A member of the general public who wishes to submit a non-technical statement for the record, in lieu of providing oral testimony at the hearing, may file the written statement prior to the hearing or submit it at the hearing. All documents filed in this matter, including notices of intent, must be filed with a single-sided original and fourteen copies to the Commission Administrator. At the conclusion of the hearing, the WQCC may make a final decision or may provide information regarding post-hearing submittals and a timeframe for its final decision. If any person requires assistance, an interpreter or auxiliary aid to participate in this process, please contact Pam Castaneda, WQCC Administrator at least 14 days prior to the hearing date at P.O. Box 5469, 1190 St. Francis Drive, Santa Fe, New Mexico, 87502, telephone (505) 827-2425 or email pam.castaneda@state.nm.us. (TDD or TTY) users please access the number via the New Mexico Relay Network,

1-800-659-1779 (voice); TTY users: 1-800-659-8331). NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, you may contact: Kristine Pintado, Non-Discrimination Coordinator, New Mexico Environment Department, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. If you believe that you have been discriminated against with respect to a NMED program or activity, you may contact the Non-Discrimination Coordinator identified above. Legal # 1220656 Run Date: 11/08/2017

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20.6.4)  (<https://www.facebook.com/sharer/sharer.php?u=http://item.php?id=1220656>) 
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COMISIÓN DE CONTROL DE CALIDAD DE AGUAS DE NUEVO MÉXICO AVISO DE AUDIENCIA PÚBLICA PARA CONSIDERAR LAS ENMIENDAS PROPUESTAS DE 20.6.4 NMAC - ESTÁNDARES DE AGUAS SUPERFICIALES INTERESTATALES E INTRAESTATALES - PARA EL ARROYO DOG CANYON Y EL ARROYO TECOLOTE, WQCC 17-04(R) La Comisión de Control de Calidad de Aguas (WQCC, por sus siglas en inglés) de Nuevo México (la Comisión) llevará a cabo una audiencia pública el martes, 9 de enero de 2018 y continuará en días subsecuentes, según sea necesario, en el Mabry Hall, Jerry Apodaca Education Building 300 Don Gaspar, Santa Fe, Nuevo México 87501. El propósito de la audiencia es considerar enmiendas de los Estándares Interestatales e Intraestatales de las Aguas superficiales, 20.6.4 NMAC. La WQCC comenzará su reunión mensual regular a las 9:00 a.m. y la audiencia pública empezará al concluir sus asuntos regulares. La ubicación de la audiencia puede cambiar antes de la fecha de la audiencia, y quienes estén interesados en





asistir deberán visitar el sitio web de la Comisión: <http://www.env.nm.gov/wqcc> antes de la audiencia. Las enmiendas propuestas de 20.6.4 NMAC, presentadas por el Departamento del Medio Ambiente de Nuevo México (el Departamento y NMED, por sus siglas en inglés), número en la lista de asuntos WQCC 17.04 (R), proponen algunos cambios en las clasificaciones de uso de la vida acuática del Arroyo Dog Canyon en el Condado de Otero y porciones del Arroyo Tecolote en el Condado San Miguel. La petición del Departamento y las enmiendas propuestas están disponibles en el sitio web del Departamento en <https://www.env.nm.gov/surface-water-quality/wqs/>. La petición también se puede obtener por vía electrónica o revisar en persona comunicándose con Pam Castaneda, Administradora de la Comisión en 1190 S. St. Francis Drive, Santa Fe, New Mexico 87502, (505) 827-2425 o pam.castaneda@state.nm.us. La audiencia se llevará a cabo conforme a la Ley de la Calidad de Aguas de Nuevo México, NMSA 1978, § 74-6-6, y los Procedimientos de la Elaboración de Normas para la Comisión del Control de Calidad de las Aguas, 20.1.6 NMAC. Cualquier persona, incluso el peticionario, que tenga la intención de presentar testimonio técnico o de refutación en la audiencia, deberá presentar un aviso de intención de presentar testimonio al Administrador de la Comisión a más tardar el 20 de diciembre de 2017. Dicho

aviso deberá: 1. Identificar a la persona por quien el/los testigo/s testificará/n; 2. Identificar a cada uno de los testigos técnicos que la persona pretende presentar y estipular las cualificaciones de dichos testigos, incluso una descripción de su formación académica y laboral. 3. Si la audiencia se llevará a cabo en diversos lugares, indicar la ubicación o las ubicaciones donde dicho testigo estará presente. 4. Incluir una copia del testimonio directo de cada testigo técnico en forma narrativa, e indicar la duración aproximada del testimonio directo oral de dicho testigo; 5. Incluir el texto de las modificaciones recomendadas al cambio reglamentario propuesto y una declaración de los fundamentos; e 6. Indicar y adjuntar todas las pruebas que dicha persona ofrecerá en la audiencia. Cualquier miembro del público general puede presentar testimonio no técnico y pruebas en la audiencia siempre y cuando dichas pruebas no constituyan una repetición excesiva del testimonio. No se necesitará dar aviso previo. Un miembro del público general que desee presentar una declaración no técnica para las actas, en vez de proporcionar testimonio oral en la audiencia, puede presentar una declaración escrita antes de la audiencia o presentarla durante la audiencia. El original escrito en una sola cara y catorce copias de todos los documentos presentados sobre este asunto, incluso los avisos de intenciones, deben ser presentados al Administrador de la

Comisión. Al concluir la audiencia, el WQCC puede tomar una decisión final o proporcionar información sobre la presentación de pruebas después de la audiencia, así como un marco de tiempo para su decisión final. Si una persona necesita ayuda, un intérprete o un asistente para participar en este proceso, sírvase comunicarse con Pam Castaneda, Administradora de la WQCC, por lo menos 14 días antes de la fecha de la audiencia, en P.O. Box 5469, 1190 St. Francis Drive, Santa Fe, Nuevo México, 87502, teléfono (505) 827-2425 o enviar un correo electrónico a pam.castaneda@state.nm.us. Se les pide a los usuarios de TDD o TTY que deseen llamar, de hacerlo por medio de la Red de retransmisión de Nuevo México, 1-800-659-1779 (voz); los usuarios de TTY: 1-800-659-8331. El NMED no discrimina por motivos de raza, color, origen nacional, discapacidad, edad o género en la administración de sus programas o actividades, según lo exigen las leyes y reglamentos pertinentes. El NMED es responsable de coordinar las labores en cuanto al cumplimiento y las indagaciones que reciba en torno a los requisitos de no discriminación estipulados en 40 C.F.R., Parte 7, incluyo el Título VI de la Ley de Derechos Civiles de 1964, como fuera enmendada; la Sección 504 de la Ley de Rehabilitación de 1973; la Ley de Discriminación por Edad de 1975, Título IX de las Enmiendas de la Educación de 1972, y la Sección 13

de las Enmiendas de la Ley Federal del Control de la Contaminación de las Aguas de 1972. Si usted tiene alguna pregunta sobre este aviso o sobre los programas de no discriminación del NMED, de sus políticas o procedimientos, sírvase comunicarse con Kristine Pintado, Coordinadora de No Discriminación, New Mexico Environment Department, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. Si usted piensa que ha sido objeto de discriminación en un programa o actividad del NMED, le rogamos que se comunique con la Coordinadora de No Discriminación antes mencionada. Legal # 1220651 Run Date: 11/8/2017

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The newspapers of **New Mexico** make public notices from their printed pages available electronically in a single database for the benefit of the public. This enhances the legislative intent of public notice - keeping a free and independent public informed about activities of their government and business activities that may affect them. Importantly, Public Notices now are in one place on the web (www.PublicNoticeAds.com), not scattered among thousands of government web pages.

County: San Miguel
Printed In: Las Vegas Optic
Printed On: 2017/11/08

NEW MEXICO WATER QUALITY CONTROL COMMISSION
 NOTICE OF PUBLIC HEARING TO CONSIDER PROPOSED AMENDMENTS TO
 20.6.4 NMAC $\frac{1}{2}$ STANDARDS FOR INTERSTATE AND INTRASTATE SURFACE WATERS $\frac{1}{2}$
 FOR DOG CANYON CREEK AND TECOLOTE CREEK, WQCC 17-04(R)

The New Mexico Water Quality Control Commission (Commission) will hold a public hearing on Tuesday, January 9, 2018, and continuing on subsequent days, as necessary, at Mabry Hall, Jerry Apodaca Education Building 300 Don Gaspar, Santa Fe, New Mexico 87501. The purpose of the hearing is to consider amendments to the Standards for Interstate and Intrastate Surface Waters, 20.6.4 NMAC. The WQCC will begin its regular monthly meeting at 9:00 am, and the public hearing will begin at the conclusion of its regular business. The hearing location may change prior to the hearing date, and those interested in attending should check the Commission website: <http://www.env.nm.gov/wqcc> prior to the hearing.

The proposed amendments to 20.6.4 NMAC, submitted by the New Mexico Environment Department (Department) and docketed as WQCC 17-04 (R), propose changes to the aquatic life use classifications of Dog Canyon Creek in Otero County and portions of Tecolote Creek in San Miguel County.

The Department's petition and proposed amendments are available on the Department's website, at <https://www.env.nm.gov/surface-water-quality/wqs/>. The petition may also be obtained electronically or reviewed in person by contacting Pam Castaneda, Commission Administrator, 1190 S. St. Francis Drive, Santa Fe, New Mexico 87502, (505) 827-2425 or pam.castaneda@state.nm.us. The hearing will be conducted in accordance with the New Mexico Water Quality Act, NMSA 1978, $\frac{1}{2}$ 74-6-6, and the Rulemaking Procedures for the Water Quality Control Commission, 20.1.6 NMAC.

Any person, including the petitioner, who intends to present technical or rebuttal testimony at the hearing must file a notice of intent to present technical testimony with the Commission Administrator no later than December 20, 2017. The notice shall:

1. Identify the person for whom the witness(es) will testify;
2. Identify each technical witness the person intends to present, and state the qualifications of that witness, including a description of their educational and work background;
3. If the hearing will be conducted at multiple locations, indicate the location or locations at which the witness will be present;
4. Include a copy of the direct testimony of each technical witness in narrative form, and state the estimated duration of the direct oral testimony of that witness;
5. Include the text of any recommended modifications to the proposed regulatory change and a statement of basis; and
6. List and attach all exhibits anticipated to be offered by that person at the hearing.

Any member of the general public may present non-technical testimony and exhibits at the hearing so long as the exhibit is not unduly repetitious of the testimony. No prior notification is required. A member of the general public who wishes to submit a non-technical statement for the record, in lieu of providing oral testimony at the hearing, may file the written statement prior to the hearing or submit it at the hearing.

All documents filed in this matter, including notices of intent, must be filed with a single-sided original and fourteen copies to the Commission Administrator. At the conclusion of the hearing, the WQCC may make a final decision or may provide information regarding post-hearing submittals and a timeframe for its final decision.

If any person requires assistance, an interpreter or auxiliary aid to participate in this process, please contact Pam Castaneda, WQCC Administrator at least 14 days prior to the hearing date at P.O. Box 5469, 1190 St. Francis Drive, Santa Fe, New Mexico, 87502, telephone (505) 827-2425 or email pam.castaneda@state.nm.us. (TDD or TTY)

users please access the number via the New Mexico Relay Network, 1-800-659-1779 (voice); TTY users: 1-800-659-8331).

NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, you may contact: Kristine Pintado, Non-Discrimination Coordinator, New Mexico Environment Department, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. If you believe that you have been discriminated against with respect to a NMED program or activity, you may contact the Non-Discrimination Coordinator identified above.

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COMISIÓN DE CONTROL DE CALIDAD DE AGUAS DE NUEVO MEXICO
 AVISO DE AUDIENCIA PÚBLICA PARA CONSIDERAR LAS ENMIENDAS PROPUESTAS DE 20.6.4
 NMAC - ESTÁNDARES DE AGUAS SUPERFICIALES INTERESTATALES E INTRAESTATALES -
 PARA EL ARROYO DOG CANYON Y EL ARROYO TECOLOTE, WQCC 17-04(R)

La Comisión de Control de Calidad de Aguas (WQCC, por sus siglas en inglés) de Nuevo México (la Comisión) llevará a cabo una audiencia pública el martes, 9 de enero de 2018 y continuará en días subsiguientes, según sea necesario, en el Mabry Hall, Jerry Apodaca Education Building 300 Don Gaspar, Santa Fe, Nuevo México 87501. El propósito de la audiencia es considerar enmiendas de los Estándares Interestatales e Intraestatales de las Aguas superficiales, 20.6.4 NMAC. La WQCC comenzará su reunión mensual regular a las 9:00 a.m. y la audiencia pública empezará al concluir sus asuntos regulares. La ubicación de la audiencia puede cambiar antes de la fecha de la audiencia, y quienes estén interesados en asistir deberán visitar el sitio web de la Comisión: <http://www.env.nm.gov/wqcc> antes de la audiencia.

Las enmiendas propuestas de 20.6.4 NMAC, presentadas por el Departamento del Medio Ambiente de Nuevo México (el Departamento y NMED, por sus siglas en inglés), están en la lista de asuntos WQCC 17.04 (R), proponen algunos cambios en las clasificaciones de uso de la vida acuática del Arroyo Dog Canyon en el Condado de Otero y porciones del Arroyo Tecolote en el Condado San Miguel.

La petición del Departamento y las enmiendas propuestas están disponibles en el sitio web del Departamento en <https://www.env.nm.gov/surface-water-quality/wqs/>. La petición también se puede obtener por vía electrónica o revisar en persona comunicándose con Pam Castaneda, Administradora de la Comisión en 1190 S. St. Francis Drive, Santa Fe, New Mexico 87502, (505) 827- 2425 o pam.castaneda@state.nm.us.

La audiencia se llevará a cabo conforme a la Ley de la Calidad de Aguas de Nuevo México, NMSA 1978, § 74-6-6, y los Procedimientos de la Elaboración de Normas para la Comisión del Control de Calidad de las Aguas, 20.1.6 NMAC.

Cualquier persona, incluso el peticionario, que tenga la intención de presentar testimonio técnico o de refutación en la audiencia, deberá presentar un aviso de intención de presentar testimonio al Administrador de la Comisión a más tardar el 20 de diciembre de 2017. Dicho aviso deberá:

1. Identificar a la persona por quien el/los testigo/s testificarán;
2. Identificar a cada uno de los testigos técnicos que la persona pretende presentar y estipular las cualificaciones de dichos testigos, incluso una descripción de su formación académica y laboral.

3. Si la audiencia se llevará a cabo en diversos lugares, indicar la ubicación o las ubicaciones donde dicho testigo estará presente.
 4. Incluir una copia del testimonio directo de cada testigo técnico en forma narrativa, e indicar la duración aproximada del testimonio directo oral de dicho testigo;
 5. Incluir el texto de las modificaciones recomendadas al cambio reglamentario propuesto y una declaración de los fundamentos; e
 6. Indicar y adjuntar todas las pruebas que dicha persona ofrecerá en la audiencia.
- Cualquier miembro del público general puede presentar testimonio no técnico y pruebas en la audiencia siempre y cuando dichas pruebas no constituyan una repetición excesiva del testimonio. No se necesitará dar aviso previo. Un miembro del público general que desee presentar una declaración no técnica para las actas, en vez de proporcionar testimonio oral en la audiencia, puede presentar una declaración escrita antes de la audiencia o presentarla durante la audiencia.

El original escrito en una sola cara y catorce copias de todos los documentos presentados sobre este asunto, incluso los avisos de intenciones, deben ser presentados al Administrador de la Comisión. Al concluir la audiencia, el WQCC puede tomar una decisión final o proporcionar información sobre la presentación de pruebas después de la audiencia, así como un marco de tiempo para su decisión final.

Si una persona necesita ayuda, un intérprete o un asistente para participar en este proceso, sírvase comunicarse con Pam Castaneda, Administradora de la WQCC, por lo menos 14 días antes de la fecha de la audiencia, en P.O. Box 5469, 1190 St. Francis Drive, Santa Fe, Nuevo México, 87502, teléfono (505) 827-2425 o enviar un correo electrónico a pam.castaneda@state.nm.us. Se les pide a los usuarios de TDD o TTY que deseen llamar, de hacerlo por medio de la Red de retransmisión de Nuevo México, 1-800-659-1779 (voz); los usuarios de TTY: 1-800-659-8331.

El NMED no discrimina por motivos de raza, color, origen nacional, discapacidad, edad o género en la administración de sus programas o actividades, según lo exigen las leyes y reglamentos pertinentes. El NMED es responsable de coordinar las labores en cuanto al cumplimiento y las indagaciones que reciba en torno a los requisitos de no discriminación estipulados en 40 C.F.R., Parte 7, incluido el Título VI de la Ley de Derechos Civiles de 1964, como fuera enmendada; la Sección 504 de la Ley de Rehabilitación de 1973; la Ley de Discriminación por Edad de 1975, Título IX de las Enmiendas de la Educación de 1972, y la Sección 13 de las Enmiendas de la Ley Federal del Control de la Contaminación de las Aguas de 1972. Si usted tiene alguna pregunta sobre este aviso o sobre los programas de no discriminación del NMED, de sus políticas o procedimientos, sírvase comunicarse con Kristine Pintado, Coordinadora de No Discriminación, New Mexico Environment Department, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. Si usted piensa que ha sido objeto de discriminación en un programa o actividad del NMED, le rogamos que se comuniquen con la Coordinadora de No Discriminación antes mencionada.

PUB: Las Vegas Optic, Nov 8, 2017
#29875

Public Notice ID:

New Mexico Register / Volume XXVIII, Issue 20 / October 31, 2017**NOTICE OF PUBLIC HEARING TO CONSIDER PROPOSED AMENDMENTS TO
20.6.4 NMAC - STANDARDS FOR INTERSTATE AND INTRASTATE SURFACE WATERS -
FOR DOG CANYON CREEK AND TECOLOTE CREEK, WQCC 17-04(R)**

The New Mexico Water Quality Control Commission (Commission) will hold a public hearing on Tuesday, January 9, 2018, and continuing on subsequent days, as necessary, at Mabry Hall, Jerry Apodaca Education Building 300 Don Gaspar, Santa Fe, New Mexico 87501. The purpose of the hearing is to consider amendments to the Standards for Interstate and Intrastate Surface Waters, 20.6.4 NMAC. The WQCC will begin its regular monthly meeting at 9:00 am, and the public hearing will begin at the conclusion of its regular business. The hearing location may change prior to the hearing date, and those interested in attending should check the Commission website: <http://www.env.nm.gov/wqcc> prior to the hearing.

The proposed amendments to 20.6.4 NMAC, submitted by the New Mexico Environment Department (Department) and docketed as WQCC 17-04 (R), propose changes to the aquatic life use classifications of Dog Canyon Creek in Otero County and portions of Tecolote Creek in San Miguel County.

The Department's petition and proposed amendments are available on the Department's website, at <https://www.env.nm.gov/surface-water-quality/wqs/>. The petition may also be obtained electronically or reviewed in person by contacting Pam Castaneda, Commission Administrator, 1190 S. St. Francis Drive, Santa Fe, New Mexico 87502, (505) 827-2425 or pam.castaneda@state.nm.us.

The hearing will be conducted in accordance with the New Mexico Water Quality Act, NMSA 1978, § 74-6-6, and the Rulemaking Procedures for the Water Quality Control Commission, 20.1.6 NMAC.

Any person, including the petitioner, who intends to present technical or rebuttal testimony at the hearing must file a notice of intent to present technical testimony with the Commission Administrator no later than December 20, 2017.

The notice shall:

1. Identify the person for whom the witness(es) will testify;
2. Identify each technical witness the person intends to present, and state the qualifications of that witness, including a description of their educational and work background;
3. If the hearing will be conducted at multiple locations, indicate the location or locations at which the witness will be present;
4. Include a copy of the direct testimony of each technical witness in narrative form, and state the estimated duration of the direct oral testimony of that witness;
5. Include the text of any recommended modifications to the proposed regulatory change and a statement of basis; and
6. List and attach all exhibits anticipated to be offered by that person at the hearing.

Any member of the general public may present non-technical testimony and exhibits at the hearing so long as the exhibit is not unduly repetitious of the testimony. No prior notification is required. A member of the general public who wishes to submit a non-technical statement for the record, in lieu of providing oral testimony at the hearing, may file the written statement prior to the hearing or submit it at the hearing.

All documents filed in this matter, including notices of intent, must be filed with a single-sided original and fourteen copies to the Commission Administrator. At the conclusion of the hearing, the WQCC may make a final decision or may provide information regarding post-hearing submittals and a timeframe for its final decision.

If any person requires assistance, an interpreter or auxiliary aid to participate in this process, please contact Pam Castaneda, WQCC Administrator at least 14 days prior to the hearing date at P.O. Box 5469, 1190 St. Francis Drive, Santa Fe, New Mexico, 87502, telephone (505) 827-2425 or email pam.castaneda@state.nm.us. (TDD or TTY) users please access the number via the New Mexico Relay Network, 1-800-659-1779 (voice); TTY users: 1-800-659-8331).

NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its

programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, you may contact: Kristine Pintado, Non-Discrimination Coordinator, New Mexico Environment Department, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. If you believe that you have been discriminated against with respect to a NMED program or activity, you may contact the Non-Discrimination Coordinator identified above.

AVISO DE AUDIENCIA PÚBLICA PARA CONSIDERAR LAS ENMIENDAS PROPUESTAS DE 20.6.4 NMAC - ESTÁNDARES DE AGUAS SUPERFICIALES INTERESTATALES E INTRAESTATALES - PARA EL ARROYO DOG CANYON Y EL ARROYO TECOLOTE, WQCC 17-04(R)

La Comisión de Control de Calidad de Aguas (WQCC, por sus siglas en inglés) de Nuevo México (la Comisión) llevará a cabo una audiencia pública el martes, 9 de enero de 2018 y continuará en días subsecuentes, según sea necesario, en el Mabry Hall, Jerry Apodaca Education Building 300 Don Gaspar, Santa Fe, Nuevo México 87501. El propósito de la audiencia es considerar enmiendas de los Estándares Interestatales e Intraestatales de las Aguas superficiales, 20.6.4 NMAC. La WQCC comenzará su reunión mensual regular a las 9:00 a.m. y la audiencia pública empezará al concluir sus asuntos regulares. La ubicación de la audiencia puede cambiar antes de la fecha de la audiencia, y quienes estén interesados en asistir deberán visitar el sitio web de la Comisión: <http://www.env.nm.gov/wqcc> antes de la audiencia.

Las enmiendas propuestas de 20.6.4 NMAC, presentadas por el Departamento del Medio Ambiente de Nuevo México (el Departamento y NMED, por sus siglas en inglés), número en la lista de asuntos WQCC 17.04 (R), proponen algunos cambios en las clasificaciones de uso de la vida acuática del Arroyo Dog Canyon en el Condado de Otero y porciones del Arroyo Tecolote en el Condado San Miguel.

La petición del Departamento y las enmiendas propuestas están disponibles en el sitio web del Departamento en <https://www.env.nm.gov/surface-water-quality/wqs/>. La petición también se puede obtener por vía electrónica o revisar en persona comunicándose con Pam Castaneda, Administradora de la Comisión en 1190 S. St. Francis Drive, Santa Fe, New Mexico 87502, (505) 827- 2425 o pam.castaneda@state.nm.us.

La audiencia se llevará a cabo conforme a la Ley de la Calidad de Aguas de Nuevo México, NMSA 1978, § 74-6-6, y los Procedimientos de la Elaboración de Normas para la Comisión del Control de Calidad de las Aguas, 20.1.6 NMAC.

Cualquier persona, incluso el peticionario, que tenga la intención de presentar testimonio técnico o de refutación en la audiencia, deberá presentar un aviso de intención de presentar testimonio al Administrador de la Comisión a más tardar el 20 de diciembre de 2017.

Dicho aviso deberá:

1. Identificar a la persona por quien el/los testigo/s testificará/n;
2. Identificar a cada uno de los testigos técnicos que la persona pretende presentar y estipular las cualificaciones de dichos testigos, incluso una descripción de su formación académica y laboral.
3. Si la audiencia se llevará a cabo en diversos lugares, indicar la ubicación o las ubicaciones donde dicho testigo estará presente.
4. Incluir una copia del testimonio directo de cada testigo técnico en forma narrativa, e indicar la duración aproximada del testimonio directo oral de dicho testigo;
5. Incluir el texto de las modificaciones recomendadas al cambio reglamentario propuesto y una declaración de los fundamentos; e
6. Indicar y adjuntar todas las pruebas que dicha persona ofrecerá en la audiencia.

Cualquier miembro del público general puede presentar testimonio no técnico y pruebas en la audiencia siempre y cuando dichas pruebas no constituyan una repetición excesiva del testimonio. No se necesitará dar aviso previo. Un miembro del público general que desee presentar una declaración no técnica para las actas, en vez de proporcionar testimonio oral en la audiencia, puede presentar una declaración escrita antes de la audiencia o presentarla durante la audiencia.

El original escrito en una sola cara y catorce copias de todos los documentos presentados sobre este asunto, incluso los avisos de intenciones, deben ser presentados al Administrador de la Comisión. Al concluir la audiencia, el WQCC puede tomar una decisión final o proporcionar información sobre la presentación de pruebas después de la audiencia, así como un marco de tiempo para su decisión final.

Si una persona necesita ayuda, un intérprete o un asistente para participar en este proceso, sírvase comunicarse con Pam Castaneda, Administradora de la WQCC, por lo menos 14 días antes de la fecha de la audiencia, en P.O. Box 5469, 1190 St. Francis Drive, Santa Fe, Nuevo México, 87502, teléfono (505) 827-2425 o enviar un correo electrónico a pam.castaneda@state.nm.us. Se les pide a los usuarios de TDD o TTY que deseen llamar, de hacerlo por medio de la Red de retransmisión de Nuevo México, 1-800-659-1779 (voz); los usuarios de TTY: 1-800-659-8331.

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Albuquerque Journal

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NEW MEXICO WATER QUALITY CONTROL COMMISSION NOTICE OF PUBLIC HEARING TO CONSIDER PROPOSED AMENDMENTS TO 20.6.4 NMAC STANDARDS FOR INTERSTATE AND INTRASTATE SURFACE WATERS FOR DOG CANYON CREEK AND TECOLOTE CREEK, WQCC 17-04(R) The New Mexico Water Quality Control Commission (Commission) will hold a public hearing on Tuesday, January 9, 2018, and continuing on subsequent days, as necessary, at Mabry Hall, Jerry Apodaca Education Building 300 Don Gaspar, Santa Fe, New Mexico 87501. The purpose of the hearing is to consider amendments to the Standards for Interstate and Intrastate Surface Waters, 20.6.4 NMAC. The WQCC will begin its regular monthly meeting at 9:00 am, and the public hearing will begin at the conclusion of its regular business. The hearing location may change prior to the hearing date, and those interested in attending should check the Commission website: <http://www.env.nm.gov/wqcc> prior to the hearing. The proposed amendments to 20.6.4 NMAC, submitted by the New Mexico Environment Department (Department) and docketed as WQCC 17-04 (R), propose changes to the aquatic life use classifications of Dog Canyon Creek in Otero County and portions of Tecolote Creek in San Miguel County. The Department's petition and proposed amendments are available on the Department's website, at <https://www.env.nm.gov/surface-water-quality/wqs/>. The petition may also be obtained electronically or reviewed in person by contacting Pam Castaneda, Commission Administrator, 1190 S. St. Francis Drive, Santa Fe, New Mexico 87502, (505) 827-2425 or pam.castaneda@state.nm.us. The hearing will be conducted in accordance with the New Mexico Water Quality Act, NMSA 1978, 74-6-6, and the Rulemaking Procedures for the Water Quality Control Commission, 20.1.6 NMAC. Any person, including the petitioner, who intends to present technical or rebuttal testimony at the hearing must file a notice of intent to present technical testimony with the Commission Administrator no later than December 20, 2017. The notice shall:

1. Identify the person for whom the witness(es) will testify;
2. Identify each technical witness the person intends to present, and state the qualifications of that witness, including a description of their educational and work background;
3. If the hearing will be conducted at multiple locations, indicate the location or locations at which the witness will be present;
4. Include a copy of the direct testimony of each technical witness in narrative form, and state the estimated duration of the direct oral testimony of that witness;
5. Include the text of any recommended modifications to the proposed regulatory change and a statement of basis; and
6. List and attach all exhibits anticipated to be offered by that person at the hearing.

Any member of the general public may present non-technical testimony and exhibits at the hearing so long as the exhibit is not unduly repetitious of the testimony. No prior notification is required. A member of the general public who wishes to submit a non-technical statement for the record, in lieu of providing oral testimony at the hearing, may file the written statement prior to the hearing or submit it at the hearing. All documents filed in this matter, including notices of intent, must be filed with a single-sided original and fourteen copies to the Commission Administrator. At the conclusion of the hearing, the WQCC may make a final

decision or may provide information regarding post-hearing submittals and a timeframe for its final decision. If any person requires assistance, an interpreter or auxiliary aid to participate in this process, please contact Pam Castaneda, WQCC Administrator at least 14 days prior to the hearing date at P.O. Box 5469, 1190 St. Francis Drive, Santa Fe, New Mexico, 87502, telephone (505) 827-2425 or email pam.castaneda@state.nm.us. (TDD or TTY) users please access the number via the New Mexico Relay Network, 1-800-659-1779 (voice); TTY users: 1-800-659-8331). NMED does not discriminate on the basis of race, color, national origin, disability, age or sex in the administration of its programs or activities, as required by applicable laws and regulations. NMED is responsible for coordination of compliance efforts and receipt of inquiries concerning non-discrimination requirements implemented by 40 C.F.R. Part 7, including Title VI of the Civil Rights Act of 1964, as amended; Section 504 of the Rehabilitation Act of 1973; the Age Discrimination Act of 1975, Title IX of the Education Amendments of 1972, and Section 13 of the Federal Water Pollution Control Act Amendments of 1972. If you have any questions about this notice or any of NMED's non-discrimination programs, policies or procedures, you may contact: Kristine Pintado, Non-Discrimination Coordinator, New Mexico Environment Department, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. If you believe that you have been discriminated against with respect to a NMED program or activity, you may contact the Non-Discrimination Coordinator identified above. Journal: November 6, 2017

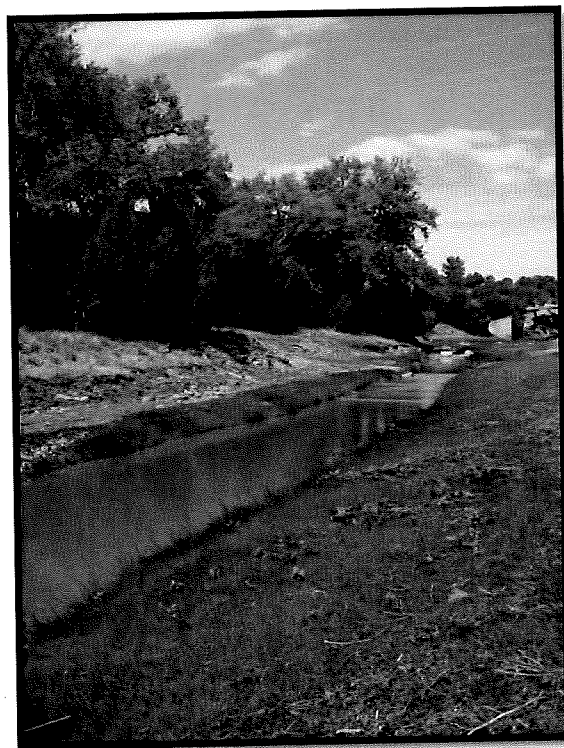
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COMISIN DE CONTROL DE CALIDAD DE AGUAS DE NUEVO MEXICO AVISO DE AUDIENCIA PBLICA PARA CONSIDERAR LAS ENMIENDAS PROPUESTAS DE 20.6.4 NMAC - ESTNDARES DE AGUAS SUPERFICIALES INTERESTATALES E INTRAESTATALES - PARA EL ARROYO DOG CANYON Y EL ARROYO TECOLOTE, WQCC 17-04(R) La Comisin de Control de Calidad de Aguas (WQCC, por sus siglas en ingls) de Nuevo Mxico (la Comisin) llevar a cabo una audiencia pblica el martes, 9 de enero de 2018 y continuar en das subsecuentes, segn sea necesario, en el Mabry Hall, Jerry Apodaca Education Building 300 Don Gaspar, Santa Fe, Nuevo Mxico 87501. El propsito de la audiencia es considerar enmiendas de los Estndares Interestatales e Intraestatales de las Aguas superficiales, 20.6.4 NMAC. La WQCC comenzar su reunin mensual regular a las 9:00 a.m. y la audiencia pblica empezar al concluir sus asuntos regulares. La ubicacin de la audiencia puede cambiar antes de la fecha de la audiencia, y quienes estn interesados en asistir debern visitar el sitio web de la Comisin: <http://www.env.nm.gov/wqcc> antes de la audiencia. Las enmiendas propuestas de 20.6.4 NMAC, presentadas por el Departamento del Medio Ambiente de Nuevo Mxico (el Departamento y NMED, por sus siglas en ingls), nmero en la lista de asuntos WQCC 17.04 (R), proponen algunos cambios en las clasificaciones de uso de la vida acutica del Arroyo Dog Canyon en el Condado de Otero y porciones del Arroyo Tecolote en el Condado San Miguel. La peticin del Departamento y las enmiendas propuestas estn disponibles en el sitio web del Departamento en <https://www.env.nm.gov/surface-water-quality/wqs/>. La peticin tambin se puede obtener por va electrnica o revisar en persona comunicndose con Pam Castaneda, Administradora de la Comisin en 1190 S. St. Francis Drive, Santa Fe, New Mexico 87502, (505) 827- 2425 o pam.castaneda@state.nm.us. La audiencia se llevar a cabo conforme a la Ley de la Calidad de Aguas de Nuevo Mxico, NMSA 1978, 74-6-6, y los Procedimientos de la Elaboracin de Normas para la Comisin del Control de Calidad de las Aguas, 20.1.6 NMAC. Cualquier persona, incluso el peticionario, que tenga la intencin de presentar testimonio tcnico o de refutacin en la audiencia, deber presentar un aviso de intencin de presentar testimonio al Administrador de la Comisin a ms tardar el 20 de diciembre de 2017. Dicho aviso deber: 1. Identificar a la persona por quien el/los testigo/s testificar/n; 2. Identificar a cada uno de los testigos tcnicos que la persona pretende presentar y estipular las cualificaciones de dichos testigos, incluso una descripcin de su formacin acadmica y laboral. 3. Si la audiencia se llevar a cabo en diversos lugares, indicar la ubicacin o las ubicaciones donde dicho testigo estar presente. 4. Incluir una copia del testimonio directo de cada testigo tcnico en forma narrativa, e indicar la duracin aproximada del testimonio directo oral de dicho testigo; 5. Incluir el texto de las modificaciones recomendadas al cambio reglamentario propuesto y una declaracin de los fundamentos; e 6. Indicar y adjuntar todas las pruebas que dicha persona ofrecer en la audiencia. Cualquier miembro del pblico general puede presentar testimonio no tcnico y pruebas en la audiencia siempre y cuando dichas pruebas no constituyan una repeticin excesiva del testimonio. No se necesitar dar aviso previo. Un miembro del pblico general que desee presentar una declaracin no tcnica para las actas,

en vez de proporcionar testimonio oral en la audiencia, puede presentar una declaracin escrita antes de la audiencia o presentarla durante la audiencia. El original escrito en una sola cara y catorce copias de todos los documentos presentados sobre este asunto, incluso los avisos de intenciones, deben ser presentados al Administrador de la Comisin. Al concluir la audiencia, el WQCC puede tomar una decisin final o proporcionar informacin sobre la presentacin de pruebas despues de la audiencia, as como un marco de tiempo para su decisin final. Si una persona necesita ayuda, un intrprete o un asistente para participar en este proceso, srvase comunicarse con Pam Castaneda, Administradora de la WQCC, por lo menos 14 das antes de la fecha de la audiencia, en P.O. Box 5469, 1190 St. Francis Drive, Santa Fe, Nuevo Mxico, 87502, telefono (505) 827-2425 o enviar un correo electrnico a pam.castaneda@state.nm.us. Se les pide a los usuarios de TDD o TTY que deseen llamar, de hacerlo por medio de la Red de retransmisin de Nuevo Mxico, 1-800-659-1779 (voz); los usuarios de TTY: 1-800-659-8331. El NMED no discrimina por motivos de raza, color, origen nacional, discapacidad, edad o gnero en la administracin de sus programas o actividades, segn lo exigen las leyes y reglamentos pertinentes. El NMED es responsable de coordinar las labores en cuanto al cumplimiento y las indagaciones que reciba en torno a los requisitos de no discriminacin estipulados en 40 C.F.R., Parte 7, incluyo el Ttulo VI de la Ley de Derechos Civiles de 1964, como fuera enmendada; la Seccin 504 de la Ley de Rehabilitacin de 1973; la Ley de Discriminacin por Edad de 1975, Ttulo IX de las Enmiendas de la Educacin de 1972, y la Seccin 13 de las Enmiendas de la Ley Federal del Control de la Contaminacin de las Aguas de 1972. Si usted tiene alguna pregunta sobre este aviso o sobre los programas de no discriminacin del NMED, de sus polticas o procedimientos, srvase comunicarse con Kristine Pintado, Coordinadora de No Discriminacin, New Mexico Environment Department, 1190 St. Francis Dr., Suite N4050, P.O. Box 5469, Santa Fe, NM 87502, (505) 827-2855, nd.coordinator@state.nm.us. Si usted piensa que ha sido objeto de discriminacin en un programa o actividad del NMED, le rogamos que se comuniquen con la Coordinadora de No Discriminacin antes mencionada. Journal: November 6, 2017

**USE ATTAINABILITY ANALYSIS
AQUATIC LIFE USE DESIGNATION FOR TECOLOTE CREEK, U.S.
INTERSTATE 25 (I-25) TO BLUE CREEK, SAN MIGUEL COUNTY, NM**



**NEW MEXICO ENVIRONMENT DEPARTMENT
SURFACE WATER QUALITY BUREAU
December 8, 2017**

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Cover photos: Left, Tecolote Creek at Blue Haven Camp, June 24, 2016; Right, Tecolote Creek at I-25, June 24, 2016; Photo credit: SWQB staff

**USE ATTAINABILITY ANALYSIS
AQUATIC LIFE USE DESIGNATION FOR TECOLOTE CREEK, U.S.
INTERSTATE 25 (I-25) TO BLUE CREEK, SAN MIGUEL COUNTY, NM**

INTRODUCTION

The New Mexico Environment Department's (NMED) Surface Water Quality Bureau (SWQB) conducted a Use Attainability Analysis (UAA) to determine the most appropriate and protective aquatic life use (ALU) for Tecolote Creek, San Miguel County, New Mexico. This UAA concludes that coolwater aquatic life is the most protective ALU that is attainable in the Assessment Unit (AU) Tecolote Creek (I-25 to Blue Creek). The high quality coldwater (HQCW) ALU is not attainable because "naturally occurring pollutant concentrations (i.e., high water temperatures resulting from ambient air temperatures) prevent the attainment of the [coldwater aquatic life] use." (40 C.F.R. § 131.10(g)(1)).

Section 101(a)(2) of the Federal Water Pollution Control Act, 33 U.S.C. §§ 1251-1387, ("Clean Water Act" or CWA) requires that, wherever attainable, water quality shall provide for the protection and propagation of fish, shellfish and wildlife and for recreation in and on the water. These are often referred to as the 'fishable, swimmable' uses for a water body. In order to remove a §101(a)(2) use or change a §101(a)(2) use to a more appropriate designation with less stringent criteria, a state or tribe must conduct a UAA demonstrating that the use is not attainable due to one or more of the six factors listed in 40 CFR§131.10(g) (see Appendix A). The UAA determines the most protective aquatic life and/or contact uses that are attainable. New Mexico's UAA procedure is described in 20.6.4.15 NMAC.

As defined in 20.6.4.7 NMAC, the State of New Mexico's water quality standards classify surface waters of the state into "segments". Each segment has several designated uses¹, including one of seven aquatic life designated uses, which are descriptive of the conditions, including thermal ranges, that should be attainable if not already existing, to support biotic communities. These aquatic life use criteria are specified in 20.6.4.900 NMAC (see Appendix B).

Each segment contains one or more AUs, which are water bodies or sections of a water body with similar characteristics. These AUs are designed to represent surface waters with homogenous water quality (WERF 2007). Tecolote Creek has been divided into three AUs (Table 1 on page 4): from its confluence with the Pecos River upstream to U.S. Interstate 25 (I-25); from I-25 upstream to Blue Creek; and from Blue Creek upstream to the headwaters. The two AUs upstream of I-25 are currently identified in water quality standards segment 20.6.4.215 NMAC:

¹ Designated use means a use specified in 20.6.4.97-899 NMAC for a surface water of the state whether or not it is attained. 20.6.4.7.D(3) NMAC.

20.6.4.215 PECOS RIVER BASIN - Perennial reaches of the Gallinas river and all its tributaries upstream of the diversion for the Las Vegas municipal reservoir and perennial reaches of Tecolote creek and its perennial tributaries.

A. Designated Uses: domestic water supply, high quality coldwater aquatic life, irrigation, livestock watering, wildlife habitat, industrial water supply and primary contact; and public water supply on the Gallinas river.

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 μ S/cm or less (450 μ S/cm or less in Wright Canyon creek); the monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.

Tecolote Creek from the Pecos River to I-25 is identified as an unclassified non-perennial water and, until a hydrology protocol is conducted, it is by default classified as intermittent and therefore required to meet the water quality standards of 20.6.4.98 NMAC:

20.6.4.98 INTERMITTENT WATERS - All non-perennial unclassified waters of the state, except those ephemeral waters included under 20.6.4.97 NMAC.

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.

Tecolote Creek (I-25 to Blue Creek) is listed as impaired due to temperature exceedences. It was first listed as impaired due to temperature in 1996. Recent thermograph data from 2010 and 2016 confirmed the impairment and it has remained on the list of impaired waters in subsequent years (NMED/SWQB 2016). However, NMED noted in the Record of Decision that the HQCW ALU may not be appropriate and a review of the segment specific use was warranted (NMED/SWQB, 2016). Perennial reaches of Tecolote Creek are also listed as impaired due to the segment-specific specific conductance (SC) criterion. The SC criterion is part of the HQCW ALU designation. The purpose of this UAA is to identify the appropriate aquatic life use for Tecolote Creek upstream of I-25 to Blue Creek. The SC criterion will no longer apply if an ALU change is supported by the preponderance of the evidence evaluated in this UAA investigation.

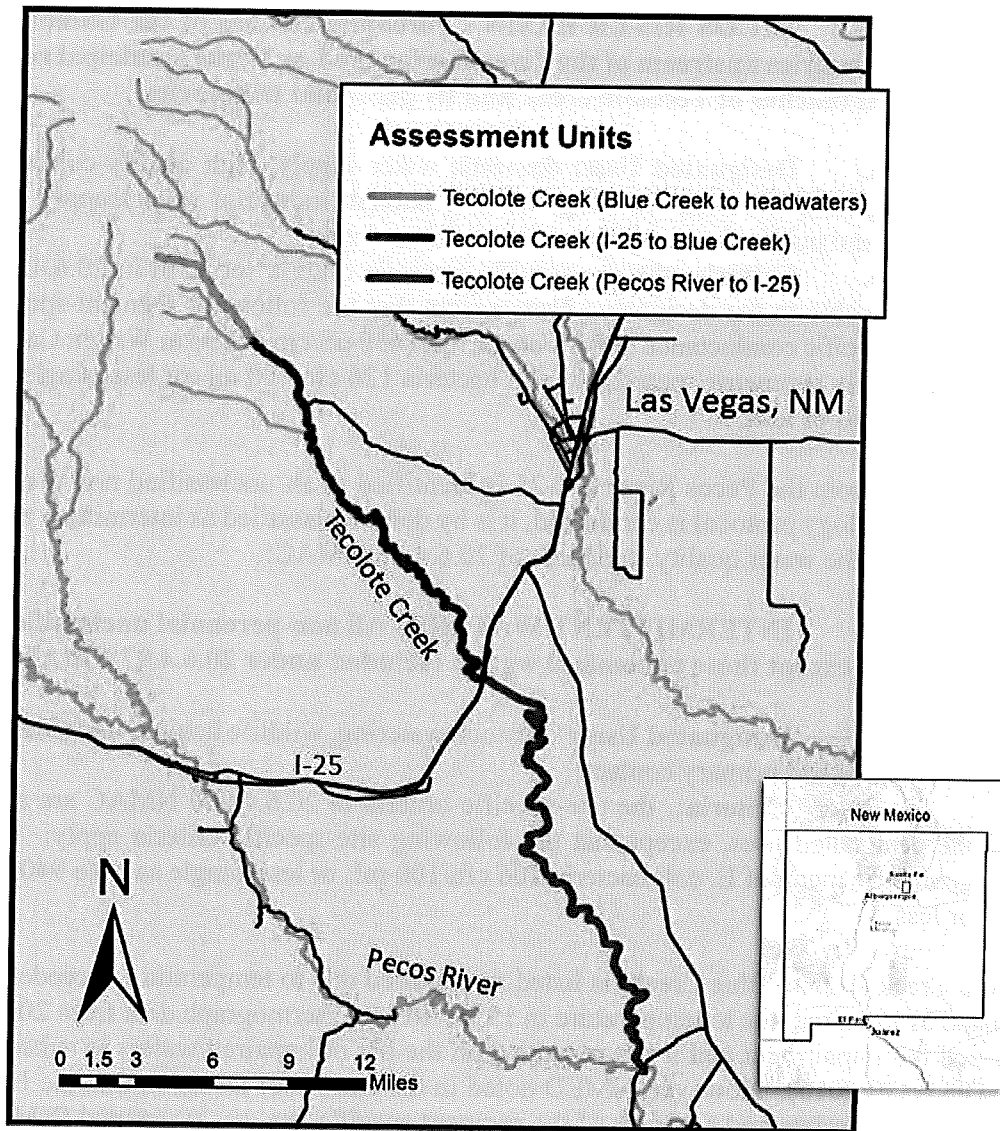


Figure 1. Tecolote Creek Assessment Units.

Table 1. SWQB Assessment Units on Tecolote Creek

Assessment Unit Name	Assessment Unit Identifier	Length of AU (miles)	Current Aquatic Life Use
Tecolote Creek (Blue Creek to headwaters)	NM-2212_09	6	High quality cold water
Tecolote Creek (I-25 to Blue Creek)	NM-2212_10	22	High quality cold water
Tecolote Creek (Pecos River to I-25)	NM-2212_08	26	Marginal warm water

WATERSHED DESCRIPTION AND HISTORY

Tecolote Creek is located within the Pecos Headwaters watershed (HUC 13060001) in northern New Mexico. The Tecolote Creek watershed area is 284 square miles (mi²) and Tecolote Creek has a total reach of 54 miles. It arises from the southeast slope of Elk Mountain in the southernmost portion of the Rocky Mountain Range in the Sangre de Cristo Mountains, flowing downstream to its confluence with the Pecos River at Tecolotito, NM. The creek originates in sub-alpine forest above 9400 feet (ft.) in elevation, then descends into mid-elevation mixed conifer and ponderosa pine forest. Tecolote Creek continues to flow through piñon-juniper woodlands and savannas, crossing I-25, where it becomes non-perennial for 26 miles until joining the Pecos River at an elevation of 5340 ft. Tributaries to Tecolote Creek include Falls Creek, Blue Creek and Wright Canyon Creek.

Settlement, and presumably irrigation diversion, began on Tecolote Creek in 1824, with the submission and approval of an application to establish the Tecolote Land Grant (Bowden, undated). The Tecolote Land Grant includes land on both sides of what is now the I-25 corridor. Higher up in the watershed, the Las Vegas Land Grant (issued in 1835) includes the Tecolote Creek channel from the north boundary of the Tecolote Land Grant upstream to the village of Geronimo.

The 2001 SWQB survey report notes that “Tecolote Creek becomes increasingly degraded as it flows downstream from the Santa Fe National Forest boundary” (NMED/ SWQB, 2001). The creek is impacted by both the clearing of riparian vegetation and stream diversion for irrigation. There are no U.S Environmental Protection Agency (USEPA) National Pollutant Discharge Elimination System (NPDES) Individual Permits with discharges to Tecolote Creek. Mining activities with stormwater discharges to Tecolote Creek may be eligible for coverage under a NPDES Multi Sector General Permit (MSGP); however, currently there is only one industry with MSGP coverage in the watershed, Howard’s Sand and Gravel, located just downstream of I-25. The MSGP requires preparation of a stormwater pollution prevention plan, which includes specific conditions to limit or eliminate pollutants associated with the industrial activities to minimize impact to water quality. Water rights in the Tecolote watershed have not been abstracted by the New Mexico Office of the State Engineer (NMOSE, 2013). Additional impacts to the creek include the Tecolote wildfire, which burned 812 acres in the upper Blue Creek watershed from June 6 to June 21, 2010.

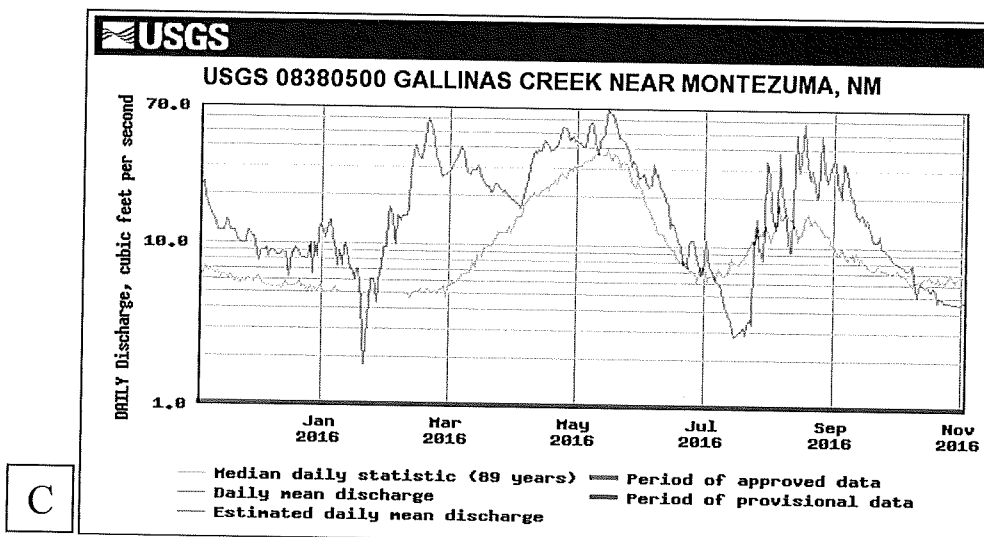
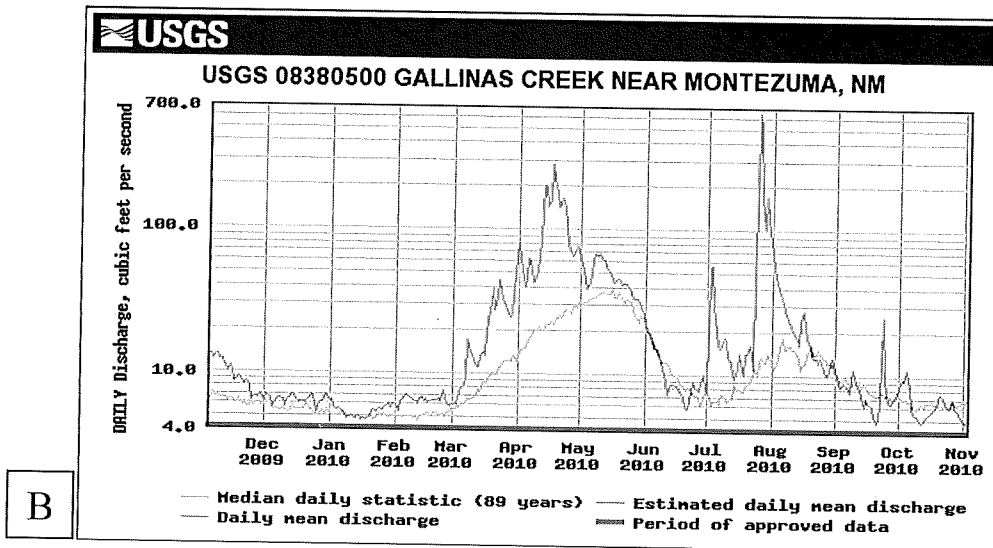
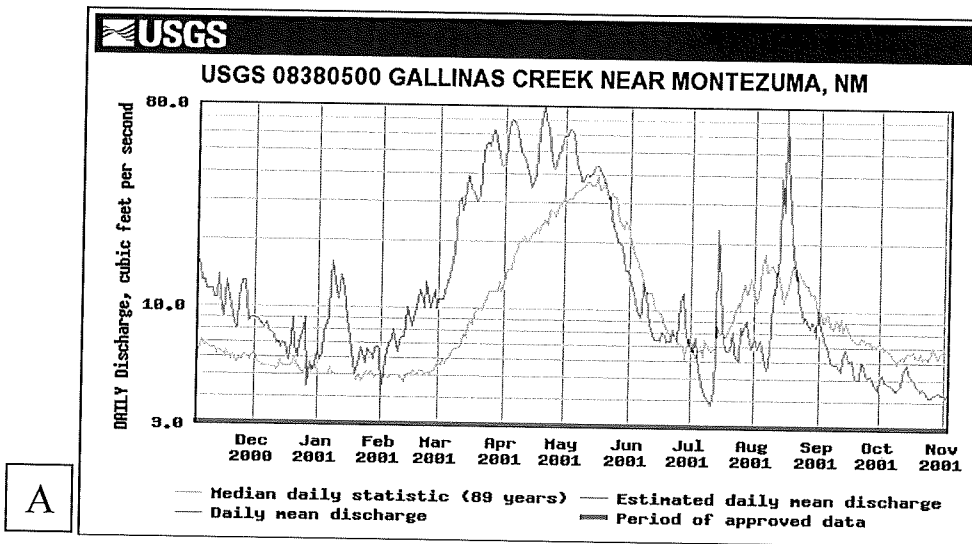


Figure 2. Discharge from the nearest USGS gauge, compared with median daily statistics, for water years (A) 2001, (B) 2010 and (C) 2016.

In order to characterize streamflow conditions in which the thermograph data were collected, discharge from the closest USGS gage, 08380500 – Gallinas Creek near Montezuma, NM was analyzed. The Gallinas watershed has similar characteristics of watershed size, drainage area, and elevation. This gage is located 9 kilometers (km) from the nearest point on Tecolote Creek, at a similar latitude and elevation as Tecolote Creek between Blue Creek and San Geronimo (see Figure 3). The three years of thermograph data used for comparison (2001, 2010 and 2016) all had greater than average spring snowmelt runoff. The summer of 2001 appears to have had slightly less than average flow, while summer 2010 included two large storm events resulting in greater than average flow, and summer 2016 included a dryer-than-normal spell of approximately three weeks' duration.

ECOREGIONAL ANALYSIS

Ecoregions denote areas of general similarity in ecosystems and in the type, quality and quantity of environmental resources; they are designed to serve as a spatial framework for the research, assessment, management and monitoring of ecosystems and ecosystem components. In recognizing the spatial differences in the capacities and potentials of ecosystems, ecoregions stratify the environment by its probable response to disturbance (Omernik, 1995).

The two AUs on Tecolote Creek above I-25 flow through two (2) level III ecoregions (Level III Ecoregion 21-Southern Rockies and Ecoregion 26-Southwestern Tablelands) and five (5) Level IV ecoregions (Griffith et al, 2006) as shown on Figure 3. The Tecolote Creek headwaters originate in the mountains within Level IV Ecoregions 21b (M) and 21c (M). The AU upstream of Blue Creek (NM-2212_09) is entirely within the Mountains category. The AU from I-25 to Blue Creek (NM-2212_10) is roughly evenly divided between Ecoregions 21f (M), 21d (F), and 26h (X). The mapped point where the transition between Ecoregions 21f (M) and 21d (F) occurs is just above San Geronimo, at approximately 6,800 ft. elevation (Figure 3). Observations of streambed characteristics and surrounding vegetation support the existence of an ecoregion transition at this location. As noted, the Tecolote Creek sampling station at I-25 is within Ecoregion 26h (X), approximately 8.7 linear km downstream of the transition point from Ecoregion 21d (F). The characteristics of these ecoregions are summarized in Table 2.

The various Level IV ecoregions in New Mexico have been classified in three sedimentation categories – Mountain (M), Foothills (F), and Xeric (X) - based on principal component analysis of habitat variables (Jessup, et al. 2010). For streams that support their designated aquatic life use, these ecoregion categories roughly correspond to the ALU designations of HQCW/coldwater, coolwater and warmwater/marginal warmwater, respectively (Jessup et al. 2010).

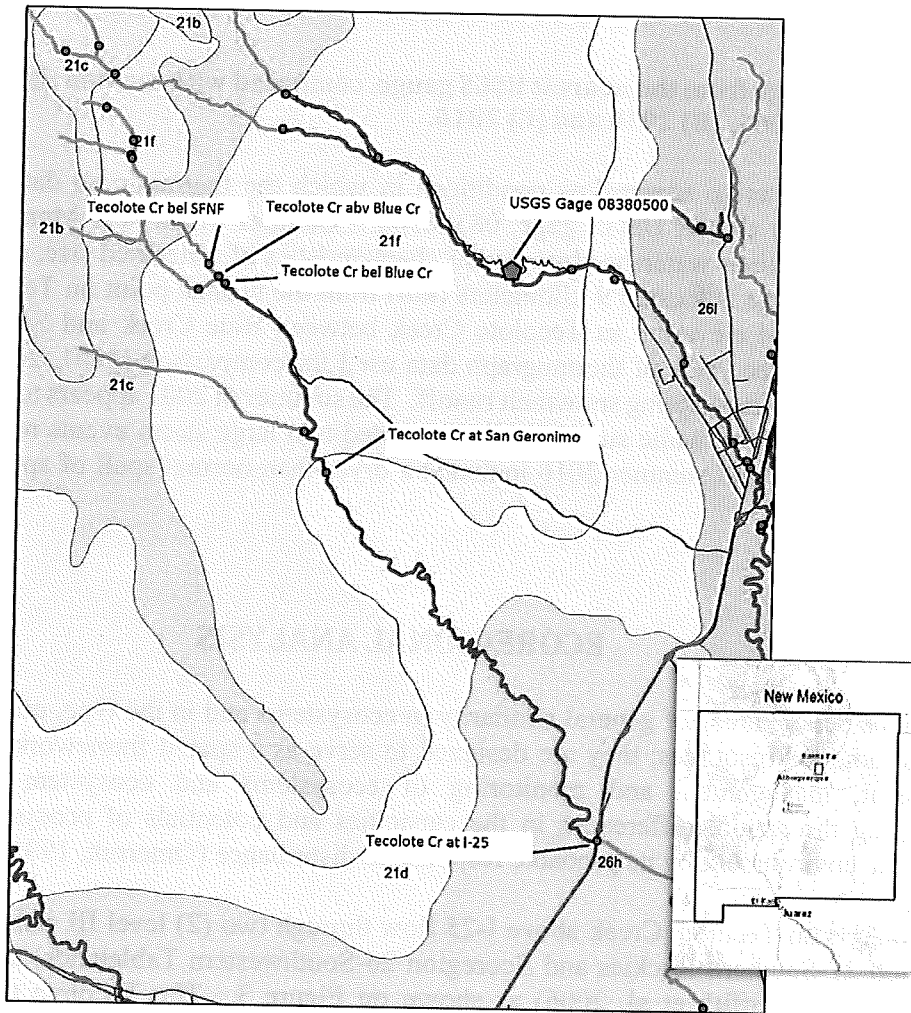


Figure 3. Tecolote Creek above I-25, showing USEPA Level IV ecoregions, USGS Gage 08380500-Gallinas Creek near Montezuma and selected SWQB monitoring stations. Impaired Assessment Units are shown in red.

Table 2. Characteristics of the Tecolote Creek watershed ecoregions

Code	Name (category)	Elevation (ft.)	Physiography	Hydrology	Annual precip (in.)	Mean July Max Temp (°C)
21	Level 3 Ecoregion - Southern Rockies					
21b	Crystalline Subalpine Forests (Mountains)	Mostly 9000 - 11,500	High mountains with steep slopes	High gradient perennial streams	24-40 deep winter snowpack	21

21c	Crystalline Mid-Elevation Forests (Mountains)	7600 – 10,100	Low mountain ridges, slopes, and outwash fans.	Moderate to high gradient perennial streams	18-28	24
21d	Foothill Woodlands and Shrublands (Foothills)	Mostly 6000-8500; 9600 max	Hills, ridges, and footslopes.	Moderate to high gradient perennial, intermittent, and ephemeral streams	12-20	29
21f	Sedimentary Mid-Elevation Forests (Mountains)	6800-9900	Low mountain ridges, slopes, and outwash fans	Moderate to high gradient perennial streams	16-29	26
26	Level 3 Ecoregion - Southwestern Tablelands					
26h	Pinyon-Juniper Woodlands and Savannas (Xeric)	5000-8720	Dissected plains and tablelands with some scattered ridges and hills	Mostly intermittent streams and some perennial streams that are spring-fed or that originate in mountain ecoregions.	12-16	32

Figure 4. Aerial view of the juncture of Tecolote Creek with Blue Creek, showing changes in topography and land use below the confluence.

AIR-WATER TEMPERATURE CORRELATION MODEL

DESCRIPTION OF THE MODEL

Numeric water quality temperature criteria for specific aquatic life uses under New Mexico’s water quality standards are expressed in terms of maximum temperature (T_{MAX}), the temperature not to be exceeded for four or more consecutive hours in a 24-hour period on more than three consecutive days (4T3), and the temperature not to be exceeded for six or more consecutive hours in a 24-hour period on more than three consecutive days (6T3) (20.6.4.7 NMAC and 20.6.4.900.H NMAC, Table 2). The Maximum Weekly Average Temperature (MWAT) is a measure of chronic temperature trends calculated from daily temperature measurements averaged over the seven contiguous days of highest daily averages from the record. New Mexico’s water quality standards do not require the use of the MWAT for temperature assessments; however, the MWAT statistic is widely adopted and a large body of comparative literature exists relating MWAT to thermal requirements of freshwater fish (Brungs and Jones, 1977).

Table 2. Aquatic life use temperature criteria (°C) (20.6.4.900.H NMAC)

Criterion	High Quality		Marginal		
	Coldwater	Coldwater	Coldwater	Coolwater	Warmwater
4T3	20	-	-	-	-

6T3	-	20	25	-	-	-
T _{MAX}	23	24	29	29	32.2	32.2

A dash (-) indicates that the criterion is not applicable to the aquatic life use.

The T_{MAX}, 4T3, 6T3 and MWAT are summary statistics derived from water temperature datasets as recorded by thermographs. Thermographs are dataloggers that can record water or air temperatures continuously at preset temporal intervals (e.g., hourly) over extended periods of time (e.g., several months). NMED deploys thermographs in a water body throughout the summer months in accordance with the Department’s Standard Operating Procedure 6.3, and assesses the validated data to identify impairments.

Air temperatures, either modeled or measured, are more readily available and spatially representative than periodic and spatially limited stream temperature datasets. Due to the limited availability of stream temperature datasets, the SWQB has developed an Air-Water Temperature Correlation (AWTC) model for New Mexico streams. The AWTC model allows for the estimation of attainable MWAT, T_{MAX}, 4T3 and 6T3 water temperatures given the 30 year July average ambient air temperature (ATEMP) for a given area (NMED/SWQB, 2011). The model was based on recorded thermograph data from 293 New Mexico stream locations and assumes that, in streams which do not receive groundwater inputs sufficient to change the water temperature, air temperature has the greatest influence on stream temperature (Bartholow, 2002). The model uses average July temperatures because July is the month in which the highest annual temperatures typically occur. In the absence of site-specific measured data, air temperature inputs to the AWTC were obtained using the Parameter-elevation Regression on Independent Slopes Model (PRISM). PRISM predicts air temperatures based on site-specific characteristics (PRISM Climate Group, 2004; Daly et al, 2008). It has been shown through the AWTC that absent appreciable influence of microclimates and ground water, ATEMP as determined through PRISM is nearly equivalent to the MWAT. The T_{MAX}, 4T3 or 6T3 can be calculated from ATEMP using correlation equations.

Sources of potential error in the AWTC model include: (1) The PRISM record of July temperatures used in the model are averaged for a period of 30 years between 1981-2010. Averaging may smooth extremes and obscure trends in the modeled temperature record. This, in combination with inter-annual variation in the water temperature record could lead to differences between the observed and predicted results; and, (2) The PRISM model interpolates values based on a minimum 800meter (m) map grid cell (640,000 m²). In mountainous areas in particular, it integrates data from a range of elevations which may reduce the precision of the results.

APPLICATION TO TECOLOTE CREEK

Average July temperatures at each Tecolote Creek monitoring station were obtained from PRISM for the reference period 1981-2010 using the settings for 800 m grid cells with interpolation. The AWTC was then used to predict T_{MAX}, 4T3 and 6T3. NMED also conducted water temperature monitoring of Tecolote Creek using thermographs in 2001, 2010 and 2016. Modelled (predicted) results and thermograph measurements (observed) are shown on Tables 4a and 4b.

To incorporate consideration of annual variability, records for the nearest National Weather Service (NWS) station were consulted to determine how the years when SWQB collected data compared to the reference period (1981-2010) for PRISM data. That station is located at the Pecos National Historical Park (station ID COOP:296676), and is approximately 23 km away from the nearest point on Tecolote Creek and at a similar elevation and latitude as the SWQB San Geronimo monitoring station. For 2001, July mean temperature departure from the 1981-2010 normal was +1.6 °C. Data points for departure from normal were missing for June and July of 2010; however, May and August were 0.7 and 0.9 °C warmer, respectively, than the reference period. Therefore, an averaged correction factor of +0.8 °C was applied on Table 4b to adjust the July average temperature in that year for departure from normal. NWS data from the 2016 weather year is not yet available for comparison with the thermograph data most recently collected by SWQB from Tecolote Creek. The adjustment process improved the accuracy of the AWTC model (reduced the difference between predicted and observed values) at predicting T_{MAX}, 4T3 and 6T3 for the AU from I-25 to Blue Creek, illustrating that in warmer-than-average years actual water temperatures are likely to exceed the values modelled using ATEMP.

Table 4a. Unadjusted Air-Water Temperature Correlation Model Predicted Temperatures for Tecolote Creek in °C

Monitoring Station	Year	ATEMP ^(a) °C	T _{MAX} (P/O) ^(b) °C	4T3 (P/O) ^(b) °C	6T3 (P/O) ^(b) °C
Tecolote Creek (Blue Creek to headwaters): NM-2212 09					
Below SFNF Boundary*	2001	18.1	24.3/ 17.2	21.0/ 15.9	19.9/ 14.8
Tecolote Creek (I-25 to Blue Creek): NM-2212 10					
At Blue Haven**	2016	18.8	25.1/ 18.9	21.7/ 16.7	20.7/ 16.3
Near San Geronimo	2001	20.1	26.5/ 27.4	23.1/ 24.9	22.0/ 23.9
	2016		26.5/ 26.9	23.1/ 23.7	22.0/ 22.5
@ I-25	2010	21.6	28.1/ 29.6	24.7/ 27.3	23.5/ 26.0
	2016		28.1/ 31.1	24.7/ 26.9	23.5/ 25.5

* the Below SFNF (Santa Fe National Forest) Boundary monitoring station is located 0.7 km above the confluence with Blue Creek
 ** Blue Haven is not a designated SWQB monitoring station; it is located approximately 2 km downstream from the confluence with Blue Creek
 (a) PRISM Climate Group, Oregon State University, <http://prism.oregonstate.edu>, accessed 25 Oct 2016
 (b) P/O – Predicted/ Observed

Table 4b. Air-Water Temperature Correlation Model Predicted Temperatures for Tecolote Creek in °C, using average July air temperature adjusted for variation from 30-year normal

Monitoring Station	Year	ATEMP ^(a)	T _{MAX} (P/O) ^(b)	4T3 (P/O) ^(b)	6T3 (P/O) ^(b)
Tecolote Creek (Blue Creek to headwaters): NM-2212 09					
Below SFNF Boundary*	2001	19.7	26.0/ 17.2	22.7/ 15.9	21.6/ 14.8
Tecolote Creek (I-25 to Blue Creek): NM-2212 10					
Near San Geronimo	2001	21.7	28.2/ 27.4	24.8/ 24.9	23.7/ 23.9
@ I-25	2010	22.4	28.9/ 29.6	25.6/ 27.3	24.4/ 26.0

* the Below SFNF (Santa Fe National Forest) Boundary monitoring station is located 0.7 km above the confluence with Blue Creek
 (a) PRISM Climate Group, Oregon State University, <http://prism.oregonstate.edu>, accessed 25 Oct 2016

(b) P/O – Predicted/ Observed

Measured temperatures much warmer than predicted by the model may indicate impairment, while measured temperatures much cooler than predicted may indicate the influence of groundwater, such as seeps and springs. If measured and predicted temperatures are near agreement, the water body is likely achieving its natural air temperature-driven thermal condition. The AWTC model estimates the effect of air temperature on ALU as follows:

- high quality coldwater or coldwater aquatic life uses may be attainable if $A_{TEMP} \leq 18^{\circ}\text{C}$;
- marginal coldwater or coolwater aquatic life uses may be attainable if $A_{TEMP} \leq 23^{\circ}\text{C}$
- warmwater may be the most protective aquatic life use attainable if $A_{TEMP} > 23^{\circ}\text{C}$

For all Tecolote Creek monitoring stations examined in this UAA, A_{TEMP} is between 18°C and 23°C , hence the model predicts that marginal coldwater or coolwater may be the most protective ALU attainable. The marginal coldwater and coolwater aquatic life uses both have T_{MAX} criteria of 29°C , but these uses describe different habitats (see Appendix B, Tecolote UAA). Coolwater describes habitat that is naturally intermediate between cold and warm. Marginal coldwater refers to habitat where natural intermittent or low flows, or other natural habitat conditions, severely limit maintenance of a coldwater aquatic life population, and these conditions are not known to exist in Tecolote Creek. The I-25 monitoring station exceeded the marginal coldwater/coolwater ALU T_{MAX} criterion in both 2010 and 2016. This is likely a water quality impairment. Probable Source sheets completed by staff conducting the 2010 survey identify roads and exotic species as two factors impacting the watershed.

The measured water temperature for the stations in the Tecolote Creek AU upstream of Blue Creek to the headwaters and at the top of the AU Tecolote Creek (I-25 to Blue Creek) were several degrees cooler than the AWTC model predicted, with or without correcting for air temperature departure from normal. This difference could be the result of groundwater input above the monitoring stations. Groundwater inputs sufficient to moderate the influence of ambient air temperature on water temperature may be indicated by reduced diel swings in water temperature. To evaluate this possibility, the thermograph records from downstream of the SFNF Boundary and at Blue Haven were examined for indications of groundwater input. The diel swings at both stations were slightly reduced in amplitude compared to the downstream monitoring site at San Geronimo, but not enough to definitively indicate a groundwater influence. In any case, it is clear that Tecolote Creek upstream of Blue Creek can and does meet its current HQCW ALU standard (Figure 5, Tecolote UAA).

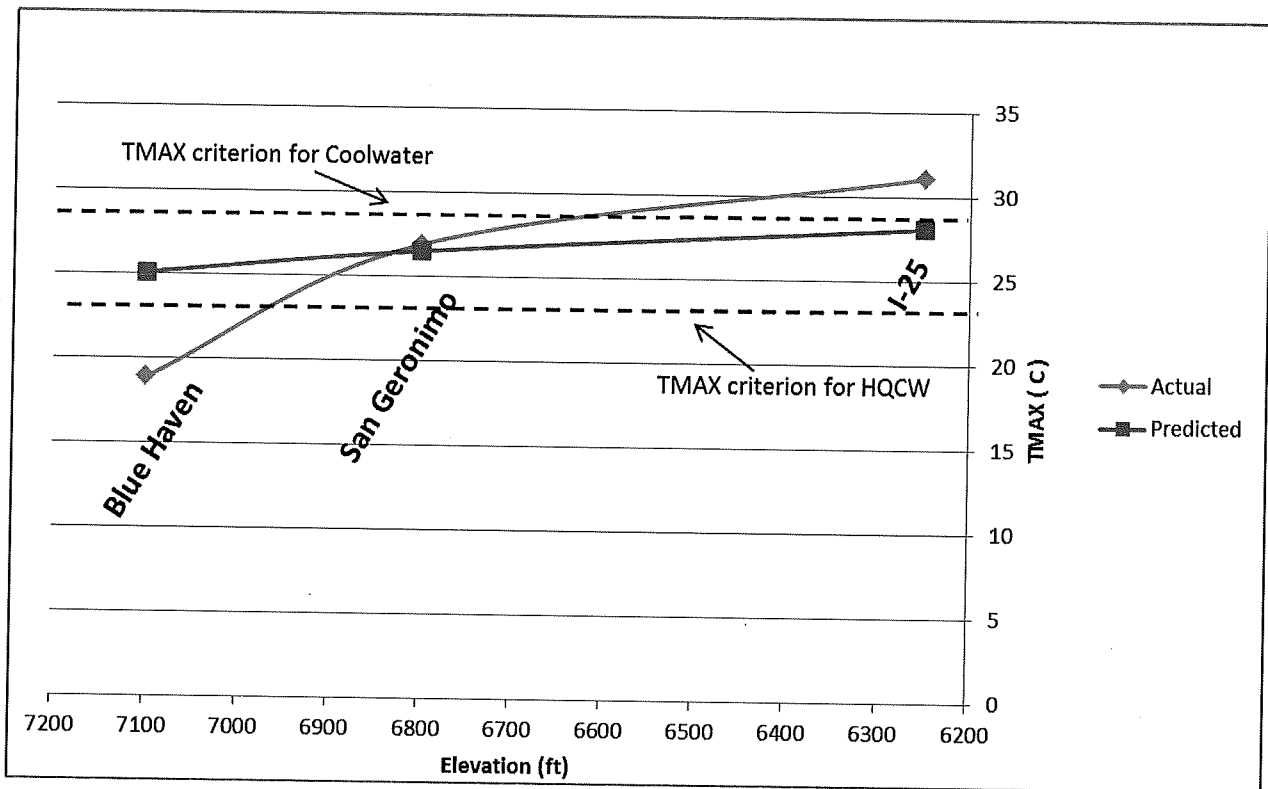


Figure 5. TMAX temperatures along Tecolote Creek, as predicted by the NMED/SWQB Air-Water Temperature Correlation Model (unadjusted), and as measured by thermographs in 2016.

AQUATIC LIFE

New Mexico’s aquatic life uses and associated criteria protect the aquatic community, including fish, based on habitat requirements. Fish community data are often used to identify an appropriate aquatic life use based on water temperature. NMED has assigned a generalized thermal preference category of cold, cool, or warm for many fish species in New Mexico based on scientific consensus, review of the available research, and best professional judgment (Morrow and Fischenich, 2000).

Fish species recorded from Tecolote Creek are shown on Table 5. Only coldwater species have been documented at the Tecolote Creek AU between Blue Creek to the headwaters. A few specimens of a coldwater species (brown trout) were found at San Geronimo at the upper portion of the Tecolote Creek AU between I-25 to Blue Creek, and a few specimens of a warmwater species (green sunfish) were found further downstream of the same AU at I-25, but this AU is dominated by coolwater species. Available historic (1939-1975) records indicate that fish species composition has remained relatively stable within the past 80 years. It remains possible that the fish community may have changed in response to anthropogenic factors during the period prior to 1939.

Table 5. Fish species found in Tecolote Creek

Common name	Species name	Number	Year	Water temperature preference	Native?
TECOLOTE CREEK BLW SFNF BOUNDARY (AU NM 2112-09)					
Rainbow trout	<i>Oncorhynchus mykiss</i>	8	2001	cold	no
Cutbow trout	<i>Oncorhynchus clarkii x mykiss</i>	2	2001	cold	no
Brown trout	<i>Salmo trutta</i>	66	2001	cold	no
Brook trout	<i>Salvelinus fontinalis</i>	16	2001	cold	no
TECOLOTE CREEK AT BRIDGE NEAR SAN GERONIMO (AU NM 2112-10)					
Brown trout	<i>Salmo trutta</i>	17	2001	cold	no
Rio Grande chub	<i>Gila pandora</i>	40	2001	cool	yes
Longnose dace	<i>Rhinichthys cataractae</i>	231	2001	cool	yes
		P*	1975		
TECOLOTE CREEK AT I-25 NEAR TECOLOTE (AU NM 2112-10)					
Longnose dace	<i>Rhinichthys cataractae</i>	TNTC**	2010	cool	yes
		157	2001		
		P*	1975		
		P*	1965		
		P*	1939		
Rio Grande chub	<i>Gila pandora</i>	TNTC**	2010	cool	yes
		160	2001		
		P*	1965		
		P*	1939		
Green sunfish	<i>Lepomis cyanellus</i>	3	2001	warm	no

* P= Present, not quantified; **TNTC= Too Numerous To Count

CONCLUSION

The high quality coldwater ALU for the AU between I-25 and Blue Creek is not attainable because "naturally occurring pollutant concentrations [thermal energy] prevent the attainment of the use...." (40 CFR 131.10 (g)(1), see Appendix A). Based on the conditions described in this UAA, coolwater is the highest potentially attainable ALU for Tecolote Creek from I-25 to Blue Creek (AU NM-2212_10). The ecoregional setting, ambient air temperatures, and fish community of Tecolote Creek all support this conclusion. Although the monitoring station at I-25 is in an ecoregion classified as Xeric, the AWTC model indicates it could attain a coolwater T_{MAX}. Water

temperature appears to change rapidly somewhere between Blue Haven and San Geronimo, without an identifiable intervening coldwater reach.

In order to change the designation for Tecolote Creek upstream of I-25 to Blue Creek (AU NM 2212-10), from a HQCW ALU to a coolwater ALU, it will be necessary to create a new segment in the State's Water Quality Standards. NMED recommends that 20.6.4.215 NMAC be amended as follows, to exclude Tecolote Creek:

20.6.4.215 PECOS RIVER BASIN - Perennial reaches of the Gallinas river and all its tributaries upstream of the diversion for the Las Vegas municipal reservoir and perennial reaches of Tecolote creek and its perennial tributaries upstream of Blue Creek.

A. Designated Uses: domestic water supply, high quality coldwater aquatic life, irrigation, livestock watering, wildlife habitat, industrial water supply and primary contact; and public water supply on the Gallinas river.

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 $\mu\text{S}/\text{cm}$ or less (450 $\mu\text{S}/\text{cm}$ or less in Wright Canyon creek); the monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.

To implement the ALU change in AU NM-2212_10, Tecolote Creek (I-25 to Blue Creek), it will be necessary to add a new water quality standards segment. NMED recommends the following water quality Segment be added to the standards:

20.6.4.230 PECOS RIVER BASIN - Tecolote Creek from I-25 to Blue Creek.

A. Designated Uses: domestic water supply, 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.

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APPENDIX A

40 CFR 131.10(g):

(g) States may remove a designated use which is not an existing use, as defined in Sec. 131.3, or establish sub-categories of a use if the State can demonstrate that attaining the designated use is not feasible because:

- (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.

APPENDIX B

DEFINITIONS 20.6.4.7 NMAC:

C.

(4) "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) "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.

H.

(1) "High quality coldwater" in reference to an aquatic life use means a perennial surface water of the state in a minimally disturbed condition with considerable aesthetic value and superior coldwater aquatic life habitat. A surface water of the state to be so categorized must have water quality, stream bed characteristics and other attributes of habitat sufficient to protect and maintain a propagating coldwater aquatic life population.

L.

(2) "Limited aquatic life" as a designated use, means the surface water is capable of supporting only a limited community of aquatic life. This subcategory includes surface waters that support aquatic species selectively adapted to take advantage of naturally occurring rapid environmental changes, ephemeral or intermittent water, high turbidity, fluctuating temperature, low dissolved oxygen content or unique chemical characteristics.

M.

(1) "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 or historical data indicate that the temperature in the surface water of the state may exceed 25°C (77°F).

(2) "Marginal warmwater" in reference to an aquatic life use means natural intermittent or low flow or other natural habitat conditions severely limit the ability of the surface water of the state to sustain a natural aquatic life population on a continuous annual basis; or historical data indicate that natural water temperature routinely exceeds 32.2°C (90°F).

W.

(1) "Warmwater" with reference to an aquatic life use means that water temperature and other characteristics are suitable for the support or propagation or both of warmwater aquatic life.

**USE ATTAINABILITY ANALYSIS
AQUATIC LIFE USE DESIGNATION FOR PERENNIAL PORTIONS OF
DOG CANYON CREEK
TULAROSA VALLEY CLOSED BASIN, OTERO COUNTY, NM**



**NEW MEXICO ENVIRONMENT DEPARTMENT
SURFACE WATER QUALITY BUREAU
September 1, 2017**

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**USE ATTAINABILITY ANALYSIS
AQUATIC LIFE USE DESIGNATION FOR PERENNIAL PORTIONS OF
DOG CANYON CREEK
TULAROSA VALLEY CLOSED BASIN, OTERO COUNTY, NM**

INTRODUCTION

The New Mexico Environment Department (NMED) Surface Water Quality Bureau (SWQB) conducted a Use Attainability Analysis (UAA) in accordance with 40 C.F.R. § 131.10(g) (Appendix A) to determine the most appropriate and protective aquatic life use for the perennial portions of Dog Canyon Creek in southern New Mexico. The coldwater aquatic life use is not attainable because “naturally occurring pollutant concentrations (i.e., high water temperatures resulting from natural ambient air temperatures) prevent the attainment of the [coldwater aquatic life] use” (40 C.F.R. § 131.10(g)(1)) and therefore a coolwater aquatic life use is the most protective aquatic life use that is naturally attainable.

Section 101(a)(2) of the Federal Water Pollution Control Act, 33 U.S.C. §§ 1251-1387, (Clean Water Act or CWA) requires that wherever attainable, water quality shall provide for the protection and propagation of fish, shellfish and wildlife and for recreation in and on the water. These are often referred to as the “fishable, swimmable” uses for a water body. In order to remove a §101(a)(2) use or change it to a more appropriate designation with less stringent criteria, a state or tribe must conduct a UAA demonstrating that the use is not attainable due to one or more of the six factors listed in 40 C.F.R. § 131.10(g) (see Appendix A). These use-specific criteria are specified in 20.6.4.15 NMAC.

As defined in 20.6.4.7 NMAC, the State of New Mexico’s water quality standards classify surface waters of the state into “segments”. Each segment has several designated uses¹, including one of seven aquatic life designated uses which are descriptive of the conditions, including thermal ranges, that should be attainable if not already existing, to support biotic communities. These aquatic life use criteria are specified in 20.6.4.900 NMAC.

Each segment contains one or more AUs, which are water bodies or sections of a water body with similar characteristics. These AUs are designed to represent surface waters with homogenous water quality (WERF 2007). Dog Canyon Creek was originally named Dog Canyon (Tularosa Creek to headwaters). However, in 2010, NMED changed its name to Dog Canyon Creek (perennial portions) to acknowledge that surface flows are not perennial and do not reach Tularosa Valley (NMED/SWQB 2014). Instead, surface flows from Dog Canyon Creek are lost to evaporation or infiltration into the alluvial surface. Dog Canyon Creek thus drains into the Rio Tularosa Closed Basin but is not a tributary to Tularosa Creek. Dog Canyon Creek (perennial portions) has only one AU identified as NM-2801_20.

¹ Designated use means a use specified in 20.6.4.97-899 NMAC for a surface water of the state whether or not it is being attained. 20.6.4.7.D(3) NMAC.

Perennial portions of Dog Canyon Creek are currently classified in the water quality standards segment 20.6.4.801 NMAC:

20.6.4.801 CLOSED BASINS - Rio Tularosa east of the old U.S. highway 70 bridge crossing east of Tularosa and all perennial tributaries to the Tularosa basin except Three Rivers and excluding waters on the Mescalero tribal lands.

A. Designated Uses: coldwater aquatic life, irrigation, livestock watering, wildlife habitat, public 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 criteria apply: the monthly geometric mean of *E. coli* bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.

The coldwater aquatic life use for Dog Canyon Creek (perennial portions) is listed as impaired due to temperature exceedences. It was first listed as impaired due to temperature in 2006 based on NMED's 2004 water quality survey data. More recent thermograph data from 2010 and 2012 confirmed the impairment and it has remained on the list of impaired waters in subsequent years. However, NMED noted in the Record of Decision (NMED/SWQB 2014) that the coldwater aquatic life use may not be appropriate and that a review of the water quality standard was warranted. The purpose of this UAA is to review the standards and identify the appropriate aquatic life use for the perennial portions of Dog Canyon Creek.

WATERSHED DESCRIPTION

The Dog Canyon Creek watershed (Figure 1) is located in the Tularosa Valley closed basin (HUC 13050003) in southern New Mexico. Streams in closed, or "endorheic" basins retain water and create no outflows to external bodies of water such as rivers or oceans. Dog Canyon is one of several large erosional canyons on the steep western escarpment of the Sacramento Mountains. The watershed has an area of approximately 40 square miles (mi²) and Dog Canyon Creek has a total reach of 5.84 miles. Elevations range from 4,000 feet (ft) at the mouth of the canyon in the Tularosa Valley to 9,000 ft in the Sacramento Mountains. Dog Canyon Creek originates within the conifer pine forests of the Lincoln National Forest and swiftly transitions to Madrean lower montane woodlands before ending in the Chihuahuan basin where it disseminates across an alluvial fan approximately 10 miles south of Alamogordo. The mouth of the canyon, and furthest downstream section, is contained in Oliver Lee Memorial State Park. Impact from human activity in the canyon containing the perennial reaches consists of light recreational use and some historical grazing (EMNRD, 2001). There are no National Pollutant Discharge Elimination System (NPDES) permitted point source discharges to Dog Canyon Creek, and there is very little development on the state park or surrounding national forest areas. Dog Canyon Creek has previously been identified as a reference stream due to minimal anthropogenic impacts to its water quality (NMED/SWQB 2014).

Non-perennial portions of Dog Canyon Creek are believed to be ephemeral, i.e., flowing in response to precipitation events however, it is still classified as intermittent until such a time in which an assessment can be conducted. Two short perennial reaches are present, one in the Oliver Lee Memorial State Park ("Nature Trail") which extends approximately 0.5 miles in length but

does not extend past the mouth of the canyon (EMNRD 2001) and another 1.4 miles upstream from the Park in the Lincoln National Forest (“Line Cabin”). The length of the perennial reach within the Lincoln National Forest has not been established but it appears from aerial photography to be about one third to one half mile (Figures 2 and 3). NMED has a water quality monitoring station at each of these locations identified as “48DogCan002.7 at the Nature Trail” and “48DogCan005.9 at Line Cabin” (see Figure 1). These perennial reaches are sustained by rain and snow-melt that make their way through cracks, fractures and bedding planes in the mountains and emerge as seeps and springs from the various limestone formations of the canyon. Topographic maps, aerial photos and pertinent literature did not indicate any perennial or intermittent flow other than the perennial reaches

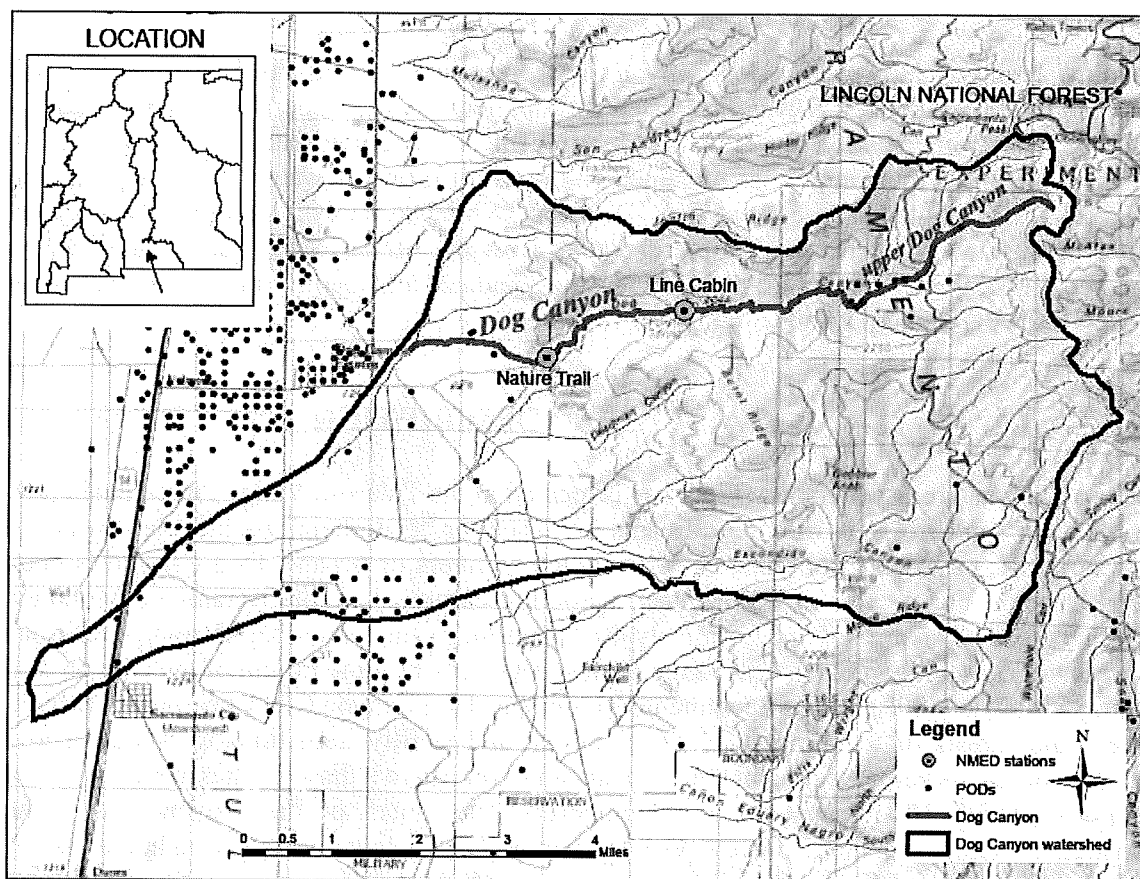


Figure 1. Dog Canyon Creek Watershed



Figure 2. Perennial reach of Dog Canyon Creek at the Nature Trail

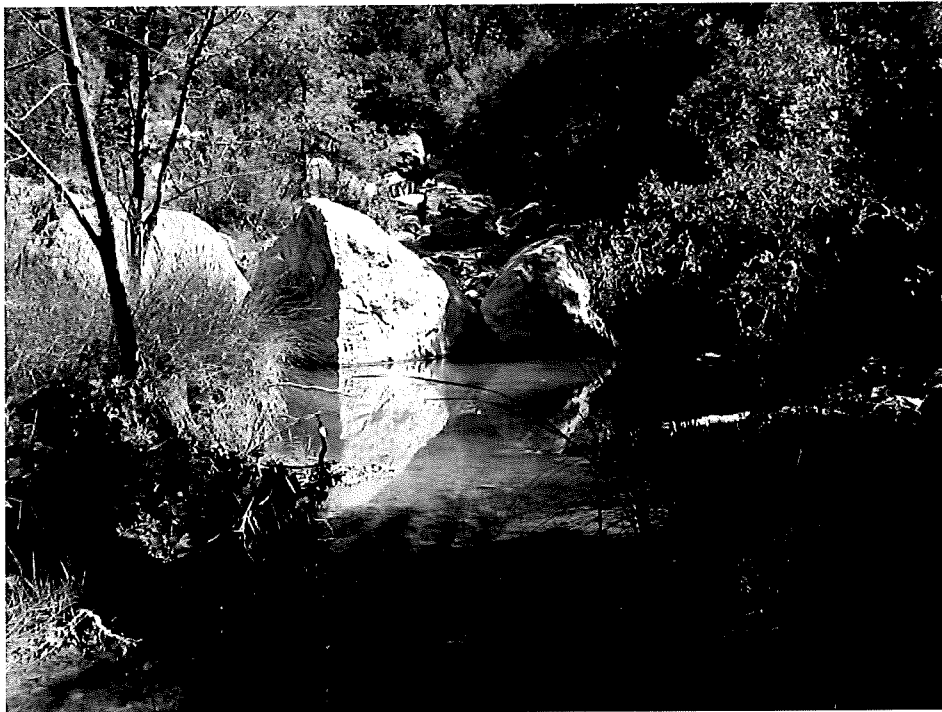


Figure 3. Perennial reach of Dog Canyon Creek at Line Cabin

Surface diversions and groundwater pumping can result in decreased streamflow and may also cause an increase in water temperature. NMED considered wells and surface diversions in Dog Canyon to assess their potential impact on surface water flows and temperatures. In the nineteenth century, ranchers diverted water from the springs for orchards and livestock in what is now the Oliver Lee Memorial State Park. These diversions are no longer used. Water for the state park operations is supplied by wells with a minimum depth to water of 190 feet, and withdrawals of three acre feet per year or less (EMNRD 2001). NMED also obtained records from the New Mexico Office of the State Engineer (NMOSE) for points of diversion (PODs) from wells and surface water within one mile of Dog Canyon or its tributaries (NMOSE 2012). A total of 21 PODs were identified (see Figure 4). Most PODs had no metering information and actual withdrawal amounts are unknown. NMED evaluated PODs individually based on their location in the watershed, allowed use and amount of diversion.

There were five PODs in the lower watershed, all of which were located at least one-half mile below the mouth of Dog Canyon. Three of these PODs were wells. Two were surface diversions dating from 1911 and 1921. These were permitted for 2318 and 1560 acre feet per year respectively, despite the absence of surface water at those locations. According to the NMOSE, these PODs were licensed for flood waters only, and there were no records of these water rights ever being used (Personal communication with D. Mercer, Sept. 22, 2014). In the upper watershed (upstream of the line cabin), there were eleven wells and five surface PODs. There are two owners for the eleven wells registered with the Office of the State Engineer; each well was designated for domestic use of three or less acre feet per year. Two of the five surface PODs had been cancelled and two others were for small impoundments at springs to create pools for livestock watering. The fifth was permitted for irrigation, although aerial photos do not indicate surface water in the vicinity. The lower portion of the watershed (downstream of the nature trail) has twelve ground water wells all registered under Holloman Air Force Base and two surface diversions issued in 1911 and 1921, respectively, for flood water diversions to be used for irrigation.

There has been little human development in the watershed, and no evidence of substantial flow apart from the perennial reaches at Line Cabin and the Nature Trail. Records from the NMOSE did not indicate any extensive water use capable of impacting flow in Dog Canyon Creek. There was no evidence of diversions of the perennial reaches at the Nature Trail or at Line Cabin. Although Dog Canyon is located in an arid region where water would have been highly coveted, there have been very few water permits or declarations here over the past 100 years, suggesting that extensive water was not available either historically or currently.

ECOREGIONAL ANALYSIS

Ecoregions denote areas of general similarity in ecosystems and in the type, quality and quantity of environmental resources; they are designed to serve as a spatial framework for the research, assessment, management and monitoring of ecosystems and ecosystem components. In recognizing the spatial differences in the capacities and potentials of ecosystems, ecoregions stratify the environment by its probable response to disturbance (Omernik, 1995). The various Level IV ecoregions in New Mexico have been classified into three sedimentation categories – Mountain (M), Foothills (F), and Xeric (X) - based on principal component analysis of habitat variables (Jessup, et al. 2010). For perennial streams that support their designated aquatic life use,

these ecoregion categories roughly correspond to the ALU designations of HQCW/coldwater, coolwater and warmwater/marginal warmwater, respectively (Jessup et al. 2010).

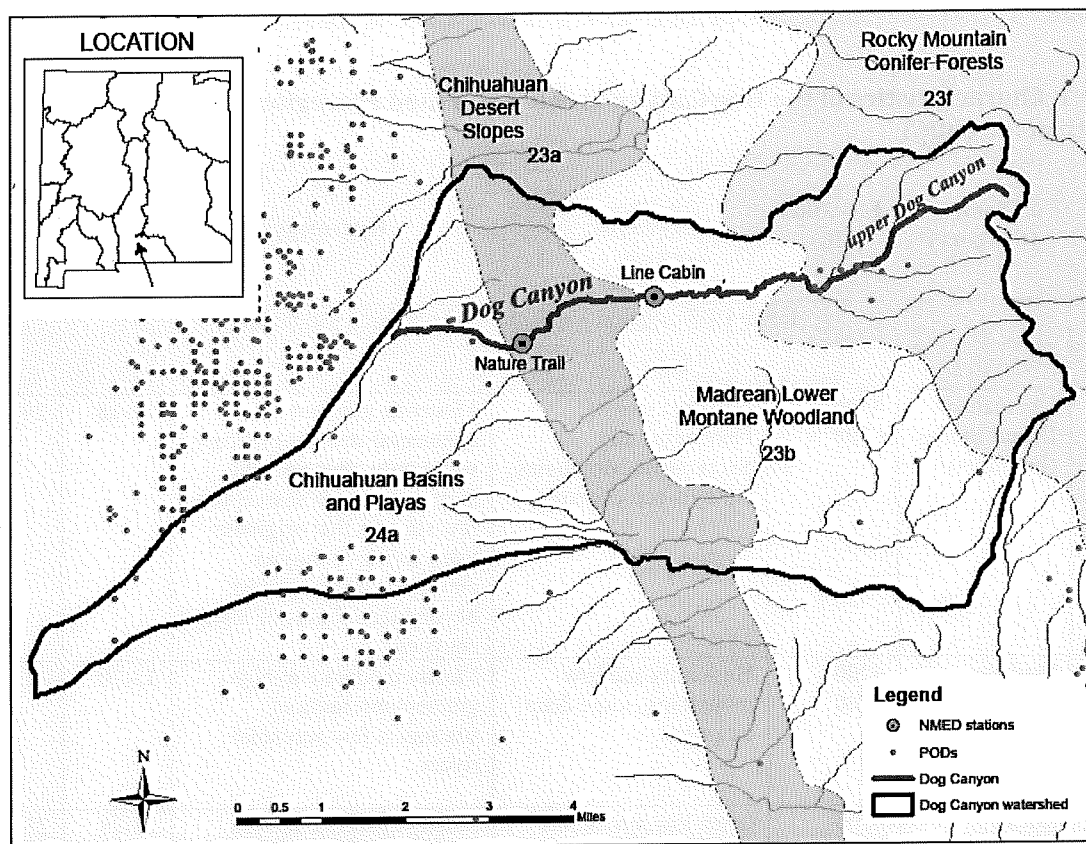


Figure 4. Dog Canyon Creek Ecoregions

Despite its relatively short length, Dog Canyon Creek spans two Level III ecoregions (Ecoregion 23-Arizona/ New Mexico Mountains and Ecoregion 24-Chihuahuan Desert) and four Level IV ecoregions (Griffith et al, 2006), as shown on Figure 4. Some characteristics of these ecoregions are summarized in Table 2. The highest elevation of Dog Canyon Creek is located at 9,000 feet in Ecoregion 23f (M). This ecoregion supports conifer forests and moderate to high gradient intermittent and some perennial streams. It receives 18-28 inches of annual precipitation, and is frost-free only 3 to 4.5 months out of the year. There is no evidence of perennial surface flow in this section of Dog Canyon Creek. The creek continues through Ecoregion 23b (F), which is lower in elevation and consequently warmer and drier than Ecoregion 23f. Vegetation is primarily woodland. The creek forms a steep canyon through Ecoregion 23a (F), which is lower in elevation and even warmer and drier than Ecoregion 23b. Vegetation consists of shrub and grassland, and surface water is limited to springs and ephemeral streams. The mouth of Dog Canyon Creek marks a transition to the Chihuahuan Desert ecoregion 24a (X), where it drains into the Tularosa Valley Closed Basin. This is an arid region, with less than 13 inches of annual precipitation (Griffith et al, 2006), and is frost-free most of the year. As is typical of this ecoregion, surface flow of Dog

Canyon in this portion is most likely ephemeral, flowing only in response to localized precipitation events. The two major perennial reaches and their respective water quality monitoring stations; 48DogCan002.7 at the "Nature Trail" and 48DogCan005.9 at "Line Cabin", occur in the 23a and 23b Foothill ecoregions, respectively.

Table 1. Characteristics of the Dog Canyon Creek watershed ecoregions (Summarized from Griffith et al., 2006)

Code	Name (category)	Elevation (ft.)	Physiography	Hydrology	Annual precip (in.)	Mean July Max Temp (°C)
23	Level III Ecoregion - Arizona/ New Mexico Mountains					
23a	Chihuahuan Desert Slopes (Foothills)	4500- 6500	Lower slopes of Guadalupe and Sacramento Mountains, cut by steep canyons.	Moderate gradient ephemeral streams that carry water only after periodic storms. Water is scarce; the few streams that originate from springs at higher elevations do not persist beyond the mouths of major canyons.	15-18	29
23b	Madrean Lower Montane Woodlands (Foothills)	4200- 8400	High hills and low mountains, some deep canyons.	Mostly moderate to high gradient intermittent streams; a few perennial rivers.	13-20	31
23f	Rocky Mountain Conifer Forests (Mountains)	7000- 9600	Open low mountains and high mountains with steep slopes, numerous canyons.	Mostly moderate to high gradient intermittent and some perennial streams.	18-28	25
24	Level III Ecoregion - Chihuahuan Deserts					
24a	Chihuahuan Basins and Playas (Xeric)	2842- 5749	Depressions or grabens filled with sediment to form flat to rolling basins.	Alluvial basins surrounding major rivers or internally drained (closed) basins. Streams ephemeral.	9-13	35

AIR-WATER TEMPERATURE CORRELATION

DESCRIPTION OF THE MODEL

Numeric water quality temperature criteria for specific aquatic life uses under New Mexico's water quality standards are expressed in terms of maximum temperature (T_{MAX}), the temperature not to be exceeded for four or more consecutive hours in a 24-hour period on more than three consecutive days (4T3) and the temperature not to be exceeded for six or more consecutive hours in a 24-hour

period on more than three consecutive days (6T3) (20.6.4.7 NMAC and 20.6.4.900.H NMAC, Table 2). The Maximum Weekly Average Temperature (MWAT) is a measure of chronic temperature trends calculated from daily temperature measurements averaged over the seven contiguous days of highest daily averages from the record. New Mexico's water quality standards do not require the use of the MWAT for temperature assessments; however, the MWAT statistic is widely adopted and a large body of comparative literature exists relating MWAT to thermal requirements of freshwater fish (Brungs and Jones, 1977).

Table 2. Aquatic life use temperature criteria (°C) (20.6.4.900.H NMAC)

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

A dash (-) indicates that the criterion is not applicable to the aquatic life use.

The T_{MAX}, 4T3, 6T3 and MWAT are summary statistics derived from water temperature datasets as recorded by thermographs. Thermographs are dataloggers that can record water or air temperatures continuously at preset temporal intervals (e.g., hourly) over extended periods of time (e.g., several months). NMED deploys thermographs in a water body throughout the summer months in accordance with the Department's Standard Operating Procedure 6.3, and assesses the validated data to identify impairments.

Air temperatures, either modeled or measured, are more readily available and spatially representative than periodic and spatially limited stream temperature datasets. Due to the limited availability of stream temperature datasets, the SWQB has developed an Air-Water Temperature Correlation (AWTC) model for New Mexico streams. The AWTC model allows for the estimation of attainable MWAT, T_{MAX}, 4T3 and 6T3 water temperatures given the 30 year July average ambient air temperature (ATEMP) for a given area (NMED/SWQB, 2011). The model was based on recorded thermograph data from 293 New Mexico stream locations and assumes that, in streams which do not receive groundwater inputs sufficient to change the water temperature, air temperature has the greatest influence on stream temperature (Bartholow, 2002). The model uses average July temperatures because July is the month in which the highest annual temperatures typically occur. In the absence of site-specific measured data, air temperature inputs to the AWTC were obtained using the Parameter-elevation Regression on Independent Slopes Model (PRISM). PRISM predicts air temperatures based on site-specific characteristics (PRISM Climate Group, 2004; Daly et al, 2008). It has been shown through the AWTC that absent appreciable influence of microclimates and ground water, ATEMP as determined through PRISM is nearly equivalent to the MWAT. The T_{MAX}, 4T3 or 6T3 can be calculated from ATEMP using correlation equations.

Sources of potential error in the AWTC model include: (1) The PRISM record of July temperatures used in the model are averaged for a period of 30 years between 1981-2010. Averaging may smooth extremes and obscure trends in the modeled temperature record. This, in combination with inter-annual variation in the water temperature record could lead to differences between the observed and predicted results; and, (2) The PRISM model interpolates values based on a

minimum 800meter (m) map grid cell (640,000 m²). In mountainous areas in particular, it integrates data from a range of elevations which may reduce the precision of the results.

APPLICATION TO DOG CANYON CREEK

The perennial reaches of Dog Canyon Creek were assessed for T_{MAX} and the 6T3 as required for the coldwater aquatic life use (20.6.4.7 NMAC). NMED conducted monitoring of Dog Canyon Creek in 2004, 2010 and 2012, and deployed water thermographs in the summer months of 2010 and 2012. NMED applied the temperature correlation model described above to each thermograph location. Modeling results (predicted) and thermograph measurements (observed) for the T_{MAX} are shown in Table 3. Observed T_{MAX} temperatures at both stations were several degrees cooler than predicted.

Where streamflow consists primarily of spring discharge and groundwater seepage, the primary influence on surface water temperature is emergent groundwater temperature. Once exposed at the surface, waters are then subject to ambient air temperatures. This situation often results in stream temperatures significantly cooler than predicted through the air-water temperature correlation model. The thermograph record from the Nature Trail shows pattern of depressed diel temperature swings (2 to 3 degrees) indicative of groundwater domination. The thermograph from the Line Cabin shows a pattern of occasionally depressed diel swings, indicative of a varying mix of groundwater and runoff influences.

Average July temperatures for the reference period 1981-2010 were obtained from PRISM using the settings for 800 m grid cells with interpolation. According to the correlation model, the July T_{MAX} in Dog Canyon Creek may exceed 29°C naturally. However, the perennial reaches of the creek are localized and spring fed. Observed water temperatures at both locations were cooler than predicted by ambient air temperature alone. T_{MAX} at both locations were identical when measured in the same year (2010), perhaps indicating that the two springs may tap into the same groundwater source. Thermograph temperatures for both reaches exceeded the coldwater T_{MAX} of 24°C but below the coolwater T_{MAX} of 29°C, as defined in 20.6.4.900.H(2) and (4), respectively (see Table 3). This data indicates the attainable conditions for the perennial reaches of Dog Canyon Creek are more closely associated with a coolwater aquatic life use than the coldwater aquatic life use.

Table 3. Observed and predicted water temperatures (°C) for Dog Canyon Creek (perennial portions)

Station #	Station location	Elev (ft)	ATEMP*	Predicted T_{MAX}	Year	Observed T_{MAX}
48DogCan002.7	Nature Trail	4480	25.5	32.2	2010	26.4
					2012	25.8
48DogCan005.9	Line cabin	5784	22.5	29.0	2010	26.4

* PRISM Climate Group, Oregon State University, <http://prism.oregonstate.edu>, accessed 25 Oct 2016

AQUATIC LIFE

New Mexico's aquatic life uses and associated criteria protect the aquatic community based on physiologic thermal tolerances. Fish community data are often used to identify an appropriate aquatic life use based on water temperature. Where the fish community is mixed regarding thermal preferences, a preponderance of evidence is used to best assess the most probable or natural state of the water body. NMED requested fish collection records for the Tularosa Valley Closed Basin from the Museum of Southwest Biology (UNM 2014). There were no records from Dog Canyon Creek. According to Oliver Lee Memorial State Park's management plan, the isolated perennial reaches of Dog Canyon support a thriving riparian and aquatic system of wildlife, birds, insects and amphibians, but no fish (EMNRD 2001). There is no evidence that a fish community ever has existed in these reaches.

CONCLUSION

Dog Canyon Creek is a minimally impacted reference stream in a warm and arid climate. Cool groundwater keeps surface water temperatures cooler than expected given ambient air temperatures alone. It is likely, in this situation, that the prevailing actual water temperature is equivalent to the attainable temperature. The naturally warm and arid conditions preclude attainment of coldwater aquatic life habitat; however, conditions can and do support a coolwater aquatic life ecosystem.

This UAA demonstrates that coolwater is the most protective attainable aquatic life use for the perennial reaches of Dog Canyon Creek. The coolwater aquatic life use is defined as an aquatic habitat that is naturally intermediate between cold and warm habitats (see Appendix B). The ecoregions, ambient air temperatures, observed water temperatures, groundwater cooling effect and the natural conditions of the stream all indicate that the coolwater aquatic life use is appropriate. The coldwater aquatic life use is not attainable because "*naturally occurring pollutant concentrations prevent the attainment of the use....*" (40 C.F.R. § 131.10(g)(1), see Appendix A). Specifically, naturally occurring thermal pollution (heat) in the water body due to ambient air temperatures prevents attainment of the coldwater aquatic life use.

To implement this standards change, it will be necessary to add a new water quality segment. NMED recommends the following water quality Segment be added to the standards:

20.6.4.810 CLOSED BASINS – Perennial reaches of Dog Canyon Creek

A. Designated Uses: coolwater aquatic life, irrigation, livestock watering, wildlife habitat, public 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 criteria apply: 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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APPENDIX A

40 C.F.R. § 131.10(g):

(g) States may remove a designated use which is not an existing use, as defined in Sec. 131.3, or establish sub-categories of a use if the State can demonstrate that attaining the designated use is not feasible because:

- (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.

APPENDIX B

DEFINITIONS 20.6.4.7 NMAC:

C.

(4) "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) "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.

H.

(1) "High quality coldwater" in reference to an aquatic life use means a perennial surface water of the state in a minimally disturbed condition with considerable aesthetic value and superior coldwater aquatic life habitat. A surface water of the state to be so categorized must have water quality, stream bed characteristics and other attributes of habitat sufficient to protect and maintain a propagating coldwater aquatic life population.

L.

(2) "Limited aquatic life" as a designated use, means the surface water is capable of supporting only a limited community of aquatic life. This subcategory includes surface waters that support aquatic species selectively adapted to take advantage of naturally occurring rapid environmental changes, ephemeral or intermittent water, high turbidity, fluctuating temperature, low dissolved oxygen content or unique chemical characteristics.

M.

(1) "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 or historical data indicate that the temperature in the surface water of the state may exceed 25°C (77°F).

(2) "Marginal warmwater" in reference to an aquatic life use means natural intermittent or low flow or other natural habitat conditions severely limit the ability of the surface water of the state to sustain a natural aquatic life population on a continuous annual basis; or historical data indicate that natural water temperature routinely exceeds 32.2°C (90°F).

W.

(1) "Warmwater" with reference to an aquatic life use means that water temperature and other characteristics are suitable for the support or propagation or both of warmwater aquatic life.

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

4
5 **20.6.4.1 ISSUING AGENCY:** Water Quality Control commission.
6 [20.6.4.1 NMAC - Rp 20 NMAC 6.1.1001, 10-12-00]

7
8 **20.6.4.2 SCOPE:** Except as otherwise provided by statute or regulation of the water quality control
9 commission, this part governs all surface waters of the state of New Mexico, which are subject to the New Mexico
10 Water Quality Act, Sections 74-6-1 through 74-6-17 NMSA 1978.
11 [20.6.4.2 NMAC - Rp 20 NMAC 6.1.1002, 10-12-00; A, 05-23-05]

12
13 **20.6.4.3 STATUTORY AUTHORITY:** This part is adopted by the water quality control commission
14 pursuant to Subsection C of Section 74-6-4 NMSA 1978.
15 [20.6.4.3 NMAC - Rp 20 NMAC 6.1.1003, 10-12-00]

16
17 **20.6.4.4 DURATION:** Permanent.
18 [20.6.4.4 NMAC - Rp 20 NMAC 6.1.1004, 10-12-00]

19
20 **20.6.4.5 EFFECTIVE DATE:** October 12, 2000, unless a later date is indicated in the history note at the
21 end of a section.
22 [20.6.4.5 NMAC - Rp 20 NMAC 6.1.1005, 10-12-00]

23
24 **20.6.4.6 OBJECTIVE:**

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

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

40 **C.** Pursuant to Subsection A of Section 74-6-12 NMSA 1978, this part does not grant to the water
41 quality control commission or to any other entity the power to take away or modify property rights in water.
42 [20.6.4.6 NMAC - Rp 20 NMAC 6.1.1006, 10-12-00; A, 05-23-05]

43
44 **20.6.4.7 DEFINITIONS:** Terms defined in the New Mexico Water Quality Act, but not defined in this
45 part will have the meaning given in the Water Quality Act.

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

47 (1) "4T3 temperature" means the temperature not to be exceeded for four or more
48 consecutive hours in a 24-hour period on more than three consecutive days.

49 (2) "6T3 temperature" means the temperature not to be exceeded for six or more
50 consecutive hours in a 24-hour period on more than three consecutive days.

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

52 (a) "cfu/100 mL" means colony-forming units per 100 milliliters; the results for *E.*
53 *coli* may be reported as either colony forming units (CFU) or the most probable number (MPN), depending on the
54 analytical method used;

55 (b) "cfs" means cubic feet per second;

1 (c) "µg/L" means micrograms per liter, equivalent to parts per billion when the
2 specific gravity of the solution equals 1.0;
3 (d) "µS/cm" means microsiemens per centimeter; one µS/cm is equal to one
4 µmho/cm;
5 (e) "mg/kg" means milligrams per kilogram, equivalent to parts per million;
6 (f) "mg/L" means milligrams per liter, equivalent to parts per million when the
7 specific gravity of the solution equals 1.0;
8 (g) "MPN/100 mL" means most probable number per 100 milliliters; the results for
9 *E. coli* may be reported as either CFU or MPN, depending on the analytical method used;
10 (h) "NTU" means nephelometric turbidity unit;
11 (i) "pCi/L" means picocuries per liter;
12 (j) "pH" means the measure of the acidity or alkalinity and is expressed in standard
13 units (su).

14 (4) "Acute toxicity" means toxicity involving a stimulus severe enough to induce a response
15 in 96 hours of exposure or less. Acute toxicity is not always measured in terms of lethality, but may include other
16 toxic effects that occur within a short time period.

17 (5) "Adjusted gross alpha" means the total radioactivity due to alpha particle emission as
18 inferred from measurements on a dry sample, including radium-226, but excluding radon-222 and uranium. Also
19 excluded are source, special nuclear and by-product material as defined by the Atomic Energy Act of 1954.

20 (6) "Aquatic life" means any plant or animal life that uses surface water as primary habitat
21 for at least a portion of its life cycle, but does not include avian or mammalian species.

22 (7) "Attainable" means achievable by the imposition of effluent limits required under
23 sections 301(b) and 306 of the Clean Water Act and implementation of cost-effective and reasonable best
24 management practices for nonpoint source control.

25 **B. Terms beginning with the letter "B".**

26 (1) "Best management practices" or "BMPs":

27 (a) for national pollutant discharge elimination system (NPDES) permitting
28 purposes means schedules of activities, prohibitions of practices, maintenance procedures and other management
29 practices to prevent or reduce the pollution of "waters of the United States;" BMPs also include treatment
30 requirements, operating procedures and practices to control plant site runoff, spillage or leaks, sludge or waste
31 disposal or drainage from raw material storage; or

32 (b) for nonpoint source pollution control purposes means methods, measures or
33 practices selected by an agency to meet its nonpoint source control needs; BMPs include but are not limited to
34 structural and nonstructural controls and operation and maintenance procedures; BMPs can be applied before,
35 during and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving
36 waters; BMPs for nonpoint source pollution control purposes shall not be mandatory except as required by state or
37 federal law.

38 (2) "Bioaccumulation" refers to the uptake and retention of a substance by an organism
39 from its surrounding medium and food.

40 (3) "Bioaccumulation factor" is the ratio of a substance's concentration in tissue versus its
41 concentration in ambient water, in situations where the organism and the food chain are exposed.

42 (4) "Biomonitoring" means the use of living organisms to test the suitability of effluents for
43 discharge into receiving waters or to test the quality of surface waters of the state.

44 **C. Terms beginning with the letter "C".**

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

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

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

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

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

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

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

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

11 **D. Terms beginning with the letter "D".**

12 (1) "DDT and derivatives" means 4,4'-DDT (CAS number 50293), 4,4'-DDE (CAS
13 number 72559) and 4,4'-DDD (CAS number 72548).

14 (2) "Department" means the New Mexico environment department.

15 (3) "Designated use" means a use specified in 20.6.4.97 through 20.6.4.899 NMAC for a
16 surface water of the state whether or not it is being attained.

17 (4) "Dissolved" refers to the fraction of a constituent of a water sample that passes through a
18 0.45-micrometer pore-size filter. The "dissolved" fraction is also termed "filterable residue."

19 (5) "Domestic water supply" means a surface water of the state that could be used for
20 drinking or culinary purposes after disinfection.

21 **E. Terms beginning with the letter "E".**

22 (1) "E. coli" means the bacteria Escherichia coli.

23 (2) "Ephemeral" when used to describe a surface water of the state means the water body
24 contains water briefly only in direct response to precipitation; its bed is always above the water table of the adjacent
25 region.

26 (3) "Existing use" means a use actually attained in a surface water of the state on or after
27 November 28, 1975, whether or not it is a designated use.

28 **F. Terms beginning with the letter "F".**

29 (1) "Fish culture" means production of coldwater or warmwater fishes in a hatchery or
30 rearing station.

31 (2) "Fish early life stages" means the egg and larval stages of development of fish ending
32 when the fish has its full complement of fin rays and loses larval characteristics.

33 **G. Terms beginning with the letter "G". [RESERVED]**

34 **H. Terms beginning with the letter "H".**

35 (1) "High quality coldwater" in reference to an aquatic life use means a perennial surface
36 water of the state in a minimally disturbed condition with considerable aesthetic value and superior coldwater
37 aquatic life habitat. A surface water of the state to be so categorized must have water quality, stream bed
38 characteristics and other attributes of habitat sufficient to protect and maintain a propagating coldwater aquatic life
39 population.

40 (2) "Human health-organism only" means the health of humans who ingest fish or other
41 aquatic organisms from waters that contain pollutants.

42 **I. Terms beginning with the letter "I".**

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

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

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

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

52 (5) "Irrigation" means application of water to land areas to supply the water needs of
53 beneficial plants.

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

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

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

1 **L. Terms beginning with the letter “L”.**

2 (1) **“LC-50”** means the concentration of a substance that is lethal to fifty percent of the test
3 organisms within a defined time period. The length of the time period, which may vary from 24 hours to one week
4 or more, depends on the test method selected to yield the information desired.

5 (2) **“Limited aquatic life”** as a designated use, means the surface water is capable of
6 supporting only a limited community of aquatic life. This subcategory includes surface waters that support aquatic
7 species selectively adapted to take advantage of naturally occurring rapid environmental changes, ephemeral or
8 intermittent water, high turbidity, fluctuating temperature, low dissolved oxygen content or unique chemical
9 characteristics.

10 (3) **“Livestock watering”** means the use of a surface water of the state as a supply of water
11 for consumption by livestock.

12 **M. Terms beginning with the letter “M”.**

13 (1) **“Marginal coldwater”** in reference to an aquatic life use means that natural intermittent
14 or low flows, or other natural habitat conditions severely limit maintenance of a coldwater aquatic life population or
15 historical data indicate that the temperature in the surface water of the state may exceed 25°C (77°F).

16 (2) **“Marginal warmwater”** in reference to an aquatic life use means natural intermittent or
17 low flow or other natural habitat conditions severely limit the ability of the surface water of the state to sustain a
18 natural aquatic life population on a continuous annual basis; or historical data indicate that natural water temperature
19 routinely exceeds 32.2°C (90°F).

20 (3) **“Maximum temperature”** means the instantaneous temperature not to be exceeded at
21 any time.

22 (4) **“Minimum quantification level”** means the minimum quantification level for a
23 constituent determined by official published documents of the United States environmental protection agency.

24 **N. Terms beginning with the letter “N”.**

25 (1) **“Natural background”** means that portion of a pollutant load in a surface water
26 resulting only from non-anthropogenic sources. Natural background does not include impacts resulting from historic
27 or existing human activities.

28 (2) **“Natural causes”** means those causal agents that would affect water quality and the
29 effect is not caused by human activity but is due to naturally occurring conditions.

30 (3) **“Nonpoint source”** means any source of pollutants not regulated as a point source that
31 degrades the quality or adversely affects the biological, chemical or physical integrity of surface waters of the state.

32 **O. Terms beginning with the letter “O”.**

33 (1) **“Organoleptic”** means the capability to produce a detectable sensory stimulus such as
34 odor or taste.

35 (2) **“Oversight agency”** means a state or federal agency, such as the United States
36 department of agriculture forest service, that is responsible for land use or water quality management decisions
37 affecting nonpoint source discharges where an outstanding national resource water is located.

38 **P. Terms beginning with the letter “P”.**

39 (1) **“Playa”** means a shallow closed basin lake typically found in the high plains and deserts.

40 (2) **“Perennial”** when used to describe a surface water of the state means the water body
41 typically contains water throughout the year and rarely experiences dry periods.

42 (3) **“Point source”** means any discernible, confined and discrete conveyance from which
43 pollutants are or may be discharged into a surface water of the state, but does not include return flows from irrigated
44 agriculture.

45 (4) **“Practicable”** means that which may be done, practiced or accomplished; that which is
46 performable, feasible, possible.

47 (5) **“Primary contact”** means any recreational or other water use in which there is
48 prolonged and intimate human contact with the water, such as swimming and water skiing, involving considerable
49 risk of ingesting water in quantities sufficient to pose a significant health hazard. Primary contact also means any
50 use of surface waters of the state for cultural, religious or ceremonial purposes in which there is intimate human
51 contact with the water, including but not limited to ingestion or immersion, that could pose a significant health
52 hazard.

53 (6) **“Public water supply”** means the use or storage of water to supply a public water
54 system as defined by New Mexico’s Drinking Water Regulations, 20.7.10 NMAC. Water provided by a public water
55 system may need to undergo treatment to achieve drinking water quality.

56 **Q. Terms beginning with the letter “Q”. [RESERVED]**

1 **R. Terms beginning with the letter "R". [RESERVED]**

2 **S. Terms beginning with the letter "S".**

3 (1) **"Secondary contact"** means any recreational or other water use in which human contact
4 with the water may occur and in which the probability of ingesting appreciable quantities of water is minimal, such
5 as fishing, wading, commercial and recreational boating and any limited seasonal contact.

6 (2) **"Segment"** means a classified water of the state described in 20.6.4.101 through
7 20.6.4.899 NMAC. The water within a segment should have the same uses, similar hydrologic characteristics or
8 flow regimes, and natural physical, chemical and biological characteristics and exhibit similar reactions to external
9 stresses, such as the discharge of pollutants.

10 (3) **"Specific conductance"** is a measure of the ability of a water solution to conduct an
11 electrical current.

12 (4) **"State"** means the state of New Mexico.

13 (5) **"Surface water(s) of the state"** means all surface waters situated wholly or partly within
14 or bordering upon the state, including lakes, rivers, streams (including intermittent streams), mudflats, sandflats,
15 wetlands, sloughs, prairie potholes, wet meadows, playa lakes, reservoirs or natural ponds. Surface waters of the
16 state also means all tributaries of such waters, including adjacent wetlands, any manmade bodies of water that were
17 originally created in surface waters of the state or resulted in the impoundment of surface waters of the state, and
18 any "waters of the United States" as defined under the Clean Water Act that are not included in the preceding
19 description. Surface waters of the state does not include private waters that do not combine with other surface or
20 subsurface water or any water under tribal regulatory jurisdiction pursuant to Section 518 of the Clean Water Act.
21 Waste treatment systems, including treatment ponds or lagoons designed and actively used to meet requirements of
22 the Clean Water Act (other than cooling ponds as defined in 40 CFR Part 423.11(m) that also meet the criteria of
23 this definition), are not surface waters of the state, unless they were originally created in surface waters of the state
24 or resulted in the impoundment of surface waters of the state.

25 **T. Terms beginning with the letter "T".**

26 (1) **"TDS"** means total dissolved solids, also termed "total filterable residue."

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

32 (3) **"Tributary"** means a perennial, intermittent or ephemeral waterbody that flows into a
33 larger waterbody, and includes a tributary of a tributary.

34 (4) **"Turbidity"** is an expression of the optical property in water that causes incident light to
35 be scattered or absorbed rather than transmitted in straight lines.

36 **U. Terms beginning with the letter "U". [RESERVED]**

37 **V. Terms beginning with the letter "V". [RESERVED]**

38 **W. Terms beginning with the letter "W".**

39 (1) **"Warmwater"** with reference to an aquatic life use means that water temperature and
40 other characteristics are suitable for the support or propagation or both of warmwater aquatic life.

41 (2) **"Water contaminant"** means any substance that could alter if discharged or spilled the
42 physical, chemical, biological or radiological qualities of water. "Water contaminant" does not mean source, special
43 nuclear or by-product material as defined by the Atomic Energy Act of 1954, but may include all other radioactive
44 materials, including but not limited to radium and accelerator-produced isotopes.

45 (3) **"Water pollutant"** means a water contaminant in such quantity and of such duration as
46 may with reasonable probability injure human health, animal or plant life or property, or to unreasonably interfere
47 with the public welfare or the use of property.

48 (4) **"Wetlands"** means those areas that are inundated or saturated by surface or ground water
49 at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of
50 vegetation typically adapted for life in saturated soil conditions in New Mexico. Wetlands that are constructed
51 outside of a surface water of the state for the purpose of providing wastewater treatment and that do not impound a
52 surface water of the state are not included in this definition.

53 (5) **"Wildlife habitat"** means a surface water of the state used by plants and animals not
54 considered as pathogens, vectors for pathogens or intermediate hosts for pathogens for humans or domesticated
55 livestock and plants.

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

1 [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-
2 01-10; A, 01-14-11; A, 03-02-2017]

3
4 **20.6.4.8 ANTIDegradation Policy and Implementation Plan:**

5 **A. Antidegradation Policy:** This antidegradation policy applies to all surface waters of the state.

6 (1) Existing instream water uses and the level of water quality necessary to protect the
7 existing uses shall be maintained and protected in all surface waters of the state.

8 (2) Where the quality of a surface water of the state exceeds levels necessary to support the
9 propagation of fish, shellfish, and wildlife, and recreation in and on the water, that quality shall be maintained and
10 protected unless the commission finds, after full satisfaction of the intergovernmental coordination and public
11 participation provisions of the state's continuing planning process, that allowing lower water quality is necessary to
12 accommodate important economic and social development in the area in which the water is located. In allowing
13 such degradation or lower water quality, the state shall assure water quality adequate to protect existing uses fully.
14 Further, the state shall assure that there shall be achieved the highest statutory and regulatory requirements for all
15 new and existing point sources and all cost-effective and reasonable BMPs for nonpoint source control.
16 Additionally, the state shall encourage the use of watershed planning as a further means to protect surface waters of
17 the state.

18 (3) No degradation shall be allowed in waters designated by the commission as outstanding
19 national resource waters (ONRWs), except as provided in Subparagraphs (a) through (e) of this paragraph and in
20 Paragraph (4) of this Subsection A.

21 (a) After providing a minimum 30-day public review and comment period, the
22 commission determines that allowing temporary and short-term degradation of water quality is necessary to
23 accommodate public health or safety activities in the area in which the ONRW is located. Examples of public health
24 or safety activities include but are not limited to replacement or repair of a water or sewer pipeline or a roadway
25 bridge. In making its decision, the commission shall consider whether the activity will interfere with activities
26 implemented to restore or maintain the chemical, physical or biological integrity of the water. In approving the
27 activity, the commission shall require that:

28 (i) the degradation shall be limited to the shortest possible time and shall
29 not exceed six months;

30 (ii) the degradation shall be minimized and controlled by best management
31 practices or in accordance with permit requirements as appropriate; all practical means of minimizing the duration,
32 magnitude, frequency and cumulative effects of such degradation shall be utilized;

33 (iii) the degradation shall not result in water quality lower than necessary to
34 protect any existing use in the ONRW; and

35 (iv) the degradation shall not alter the essential character or special use that
36 makes the water an ONRW.

37 (b) Prior to the commission making a determination, the department or appropriate
38 oversight agency shall provide a written recommendation to the commission. If the commission approves the
39 activity, the department or appropriate oversight agency shall oversee implementation of the activity.

40 (c) Where an emergency response action that may result in temporary and short-
41 term degradation to an ONRW is necessary to mitigate an immediate threat to public health or safety, the emergency
42 response action may proceed prior to providing notification required by Subparagraph (a) of this paragraph in
43 accordance with the following:

44 (i) only actions that mitigate an immediate threat to public health or safety
45 may be undertaken pursuant to this provision; non-emergency portions of the action shall comply with the
46 requirements of Subparagraph (a) of this paragraph;

47 (ii) the discharger shall make best efforts to comply with requirements (i)
48 through (iv) of Subparagraph (a) of this paragraph;

49 (iii) the discharger shall notify the department of the emergency response
50 action in writing within seven days of initiation of the action;

51 (iv) within 30 days of initiation of the emergency response action, the
52 discharger shall provide a summary of the action taken, including all actions taken to comply with requirements (i)
53 through (iv) of Subparagraph (a) of this paragraph.

54 (d) Preexisting land-use activities, including grazing, allowed by federal or state law
55 prior to designation as an ONRW, and controlled by best management practices (BMPs), shall be allowed to

1 continue so long as there are no new or increased discharges resulting from the activity after designation of the
2 ONRW.

3 (e) Acequia operation, maintenance, and repairs are not subject to new requirements
4 because of ONRW designation. However, the use of BMPs to minimize or eliminate the introduction of pollutants
5 into receiving waters is strongly encouraged.

6 (4) This antidegradation policy does not prohibit activities that may result in degradation in
7 surface waters of the state when such activities will result in restoration or maintenance of the chemical, physical or
8 biological integrity of the water.

9 (a) For ONRWs, the department or appropriate oversight agency shall review on a
10 case-by-case basis discharges that may result in degradation from restoration or maintenance activities, and may
11 approve such activities in accordance with the following:

12 (i) the degradation shall be limited to the shortest possible time;
13 (ii) the degradation shall be minimized and controlled by best management
14 practices or in accordance with permit requirements as appropriate, and all practical means of minimizing the
15 duration, magnitude, frequency and cumulative effects of such degradation shall be utilized;

16 (iii) the degradation shall not result in water quality lower than necessary to
17 protect any existing use of the surface water; and

18 (iv) the degradation shall not alter the essential character or special use that
19 makes the water an ORNW.

20 (b) For surface waters of the state other than ONRWs, the department shall review
21 on a case-by-case basis discharges that may result in degradation from restoration or maintenance activities, and
22 may approve such activities in accordance with the following:

23 (i) the degradation shall be limited to the shortest possible time;
24 (ii) the degradation shall be minimized and controlled by best management
25 practices or in accordance with permit requirements as appropriate, and all practical means of minimizing the
26 duration, magnitude, frequency and cumulative effects of such degradation shall be utilized; and

27 (iii) the degradation shall not result in water quality lower than necessary to
28 protect any existing use of the surface water.

29 (5) In those cases where potential water quality impairment associated with a thermal
30 discharge is involved, this antidegradation policy and implementing method shall be consistent with Section 316 of
31 the federal Clean Water Act.

32 (6) In implementing this section, the commission through the appropriate regional offices of
33 the United States environmental protection agency will keep the administrator advised and provided with such
34 information concerning the surface waters of the state as he or she will need to discharge his or her responsibilities
35 under the federal Clean Water Act.

36 **B. Implementation Plan:** The department, acting under authority delegated by the commission,
37 implements the water quality standards, including the antidegradation policy, by describing specific methods and
38 procedures in the continuing planning process and by establishing and maintaining controls on the discharge of
39 pollutants to surface waters of the state. The steps summarized in the following paragraphs, which may not all be
40 applicable in every water pollution control action, list the implementation activities of the department. These
41 implementation activities are supplemented by detailed antidegradation review procedures developed under the
42 state's continuing planning process. The department:

43 (1) obtains information pertinent to the impact of the effluent on the receiving water and
44 advises the prospective discharger of requirements for obtaining a permit to discharge;

45 (2) reviews the adequacy of existing data and conducts a water quality survey of the
46 receiving water in accordance with an annually reviewed, ranked priority list of surface waters of the state requiring
47 total maximum daily loads pursuant to Section 303(d) of the federal Clean Water Act;

48 (3) assesses the probable impact of the effluent on the receiving water relative to its
49 attainable or designated uses and numeric and narrative criteria;

50 (4) requires the highest and best degree of wastewater treatment practicable and
51 commensurate with protecting and maintaining the designated uses and existing water quality of surface waters of
52 the state;

53 (5) develops water quality based effluent limitations and comments on technology based
54 effluent limitations, as appropriate, for inclusion in any federal permit issued to a discharger pursuant to Section 402
55 of the federal Clean Water Act;

- (6) requires that these effluent limitations be included in any such permit as a condition for state certification pursuant to Section 401 of the federal Clean Water Act;
 - (7) coordinates its water pollution control activities with other constituent agencies of the commission, and with local, state and federal agencies, as appropriate;
 - (8) develops and pursues inspection and enforcement programs to ensure that dischargers comply with state regulations and standards, and complements EPA's enforcement of federal permits;
 - (9) ensures that the provisions for public participation required by the New Mexico Water Quality Act and the federal Clean Water Act are followed;
 - (10) provides continuing technical training for wastewater treatment facility operators through the utility operators training and certification programs;
 - (11) provides funds to assist the construction of publicly owned wastewater treatment facilities through the wastewater construction program authorized by Section 601 of the federal Clean Water Act, and through funds appropriated by the New Mexico legislature;
 - (12) conducts water quality surveillance of the surface waters of the state to assess the effectiveness of water pollution controls, determines whether water quality standards are being attained, and proposes amendments to improve water quality standards;
 - (13) encourages, in conjunction with other state agencies, implementation of the best management practices set forth in the New Mexico statewide water quality management plan and the nonpoint source management program, such implementation shall not be mandatory except as provided by federal or state law;
 - (14) evaluates the effectiveness of BMPs selected to prevent, reduce or abate sources of water pollutants;
 - (15) develops procedures for assessing use attainment as required by 20.6.4.15 NMAC and establishing site-specific standards; and
 - (16) develops list of surface waters of the state not attaining designated uses, pursuant to Sections 305(b) and 303(d) of the federal Clean Water Act.
- [20.6.4.8 NMAC - Rp 20 NMAC 6.1.1101, 10-12-00; A, 05-23-05; A, 08-01-07; A, 01-14-11]

20.6.4.9 OUTSTANDING NATIONAL RESOURCE WATERS:

A. Procedures for nominating an ONRW: Any person may nominate a surface water of the state for designation as an ONRW by filing a petition with the commission pursuant to the guidelines for water quality control commission regulation hearings. A petition to designate a surface water of the state as an ONRW shall include:

- (1) a map of the surface water of the state, including the location and proposed upstream and downstream boundaries;
- (2) a written statement and evidence based on scientific principles in support of the nomination, including specific reference to one or more of the applicable ONRW criteria listed in Subsection B of this section;
- (3) water quality data including chemical, physical or biological parameters, if available, to establish a baseline condition for the proposed ONRW;
- (4) a discussion of activities that might contribute to the reduction of water quality in the proposed ONRW;
- (5) any additional evidence to substantiate such a designation, including a discussion of the economic impact of the designation on the local and regional economy within the state of New Mexico and the benefit to the state; and
- (6) affidavit of publication of notice of the petition in a newspaper of general circulation in the affected counties and in a newspaper of general statewide circulation.

B. Criteria for ONRWs: A surface water of the state, or a portion of a surface water of the state, may be designated as an ONRW where the commission determines that the designation is beneficial to the state of New Mexico, and:

- (1) the water is a significant attribute of a state special trout water, national or state park, national or state monument, national or state wildlife refuge or designated wilderness area, or is part of a designated wild river under the federal Wild and Scenic Rivers Act; or
- (2) the water has exceptional recreational or ecological significance; or

1 (3) the existing water quality is equal to or better than the numeric criteria for protection of
2 aquatic life and contact uses and the human health-organism only criteria, and the water has not been significantly
3 modified by human activities in a manner that substantially detracts from its value as a natural resource.

4 C. Pursuant to a petition filed under Subsection A of this section, the commission may classify a
5 surface water of the state or a portion of a surface water of the state as an ONRW if the criteria set out in Subsection
6 B of this section are met.

7 D. **Waters classified as ONRWs:** The following waters are classified as ONRWs:

8 (1) Rio Santa Barbara, including the west, middle and east forks from their headwaters
9 downstream to the boundary of the Pecos Wilderness; and

10 (2) the waters within the United States forest service Valle Vidal special management unit
11 including:

12 (a) Rio Costilla, including Comanche, La Cueva, Fernandez, Chuckwagon, Little
13 Costilla, Powderhouse, Holman, Gold, Grassy, LaBelle and Vidal creeks, from their headwaters downstream to the
14 boundary of the United States forest service Valle Vidal special management unit;

15 (b) Middle Ponil creek, including the waters of Greenwood Canyon, from their
16 headwaters downstream to the boundary of the Elliott S. Barker wildlife management area;

17 (c) Shuree lakes;

18 (d) North Ponil creek, including McCrystal and Seally Canyon creeks, from their
19 headwaters downstream to the boundary of the United States forest service Valle Vidal special management unit;
20 and

21 (e) Leandro creek from its headwaters downstream to the boundary of the United
22 States forest service Valle Vidal special management unit.

23 (3) the named perennial surface waters of the state, identified in Subparagraph (a) below,
24 located within United States department of agriculture forest service wilderness. Wilderness are those lands
25 designated by the United States congress as wilderness pursuant to the Wilderness Act. Wilderness areas included in
26 this designation are the Aldo Leopold wilderness, Apache Kid wilderness, Blue Range wilderness, Chama River
27 Canyon wilderness, Cruces Basin wilderness, Dome wilderness, Gila wilderness, Latir Peak wilderness, Pecos
28 wilderness, San Pedro Parks wilderness, Wheeler Peak wilderness, and White Mountain wilderness.

29 (a) The following waters are designated in the Rio Grande basin:

30 (i) in the Aldo Leopold wilderness: Byers Run, Circle Seven creek, Flower
31 canyon, Holden Prong, Indian canyon, Las Animas creek, Mud Spring canyon, North Fork Palomas creek, North
32 Seco creek, Pretty canyon, Sids Prong, South Animas canyon, Victorio Park canyon, Water canyon;

33 (ii) in the Apache Kid wilderness Indian creek and Smith canyon;

34 (iii) in the Chama River Canyon wilderness: Chavez canyon, Ojitos canyon,
35 Rio Chama;

36 (iv) in the Cruces Basin wilderness: Beaver creek, Cruces creek, Diablo
37 creek, Escondido creek, Lobo creek, Osha creek;

38 (v) in the Dome wilderness: Capulin creek, Medio creek, Sanchez
39 canyon/creek;

40 (vi) in the Latir Peak wilderness: Bull creek, Bull Creek lake, Heart lake,
41 Lagunitas Fork, Lake Fork creek, Rito del Medio, Rito Primero, West Latir creek;

42 (vii) in the Pecos wilderness: Agua Sarca, Hidden lake, Horseshoe lake
43 (Alamitos), Jose Vigil lake, Nambe lake, Nat lake IV, No Fish lake, North Fork Rio Quemado, Rinconada, Rio
44 Capulin, Rio de las Trampas (Trampas creek), Rio de Truchas, Rio Frijoles, Rio Medio, Rio Molino, Rio Nambe,
45 Rio San Leonardo, Rito con Agua, Rito Gallina, Rito Jaroso, Rito Quemado, San Leonardo lake, Santa Fe lake,
46 Santa Fe river, Serpent lake, South Fork Rio Quemado, Trampas lake (East), Trampas lake (West);

47 (viii) in the San Pedro Parks wilderness: Agua Sarca, Cañon Madera, Cave
48 creek, Cecilia Canyon creek, Clear creek (North SPP), Clear creek (South SPP), Corralitos creek, Dove creek, Jose
49 Miguel creek, La Jara creek, Oso creek, Rio Capulin, Rio de las Vacas, Rio Gallina, Rio Puerco de Chama, Rito
50 Anastacio East, Rito Anastacio West, Rito de las Palomas, Rito de las Perchas, Rito de los Pinos, Rito de los Utes,
51 Rito Leche, Rito Redondo, Rito Resumidero, San Gregorio lake;

52 (ix) in the Wheeler Peak wilderness: Black Copper canyon, East Fork Red
53 river, Elk lake, Horseshoe lake, Lost lake, Sawmill creek, South Fork lake, South Fork Rio Hondo, Williams lake.

54 (b) The following waters are designated in the Pecos River basin:

55 (i) in the Pecos wilderness: Albright creek, Bear creek, Beatty creek,
56 Beaver creek, Carpenter creek, Cascade canyon, Cave creek, El Porvenir creek, Hollinger creek, Holy Ghost creek,

1 Horsethief creek, Jack's creek, Jarosa canyon/creek, Johnson lake, Lake Katherine, Lost Bear lake, Noisy brook,
2 Panchuela creek, Pecos Baldy lake, Pecos river, Rio Mora, Rio Valdez, Rito Azul, Rito de los Chimayosos, Rito de
3 los Esteros, Rito del Oso, Rito del Padre, Rito las Trampas, Rito Maestas, Rito Oscuro, Rito Perro, Rito
4 Sebadillosos, South Fork Bear creek, South Fork Rito Azul, Spirit lake, Stewart lake, Truchas lake (North), Truchas
5 lake (South), Winsor creek;

6 (ii) in the White Mountain wilderness: Argentina creek, Aspen creek,
7 Bonito creek, Little Bonito creek, Mills canyon/creek, Rodamaker creek, South Fork Rio Bonito, Turkey
8 canyon/creek.

9 (c) The following waters are designated in the Gila River basin:

10 (i) in the Aldo Leopold wilderness: Aspen canyon, Black Canyon creek,
11 Bonner canyon, Burnt canyon, Diamond creek, Falls canyon, Fisherman canyon, Running Water canyon, South
12 Diamond creek;

13 (ii) in the Gila wilderness: Apache creek, Black Canyon creek, Brush
14 canyon, Canyon creek, Chicken Coop canyon, Clear creek, Cooper canyon, Cow creek, Cub creek, Diamond creek,
15 East Fork Gila river, Gila river, Gilita creek, Indian creek, Iron creek, Langstroth canyon, Lilley canyon, Little
16 creek, Little Turkey creek, Lookout canyon, McKenna creek, Middle Fork Gila river, Miller Spring canyon,
17 Mogollon creek, Panther canyon, Prior creek, Rain creek, Raw Meat creek, Rocky canyon, Sacaton creek, Sapillo
18 creek, Sheep Corral canyon, Skeleton canyon, Squaw creek, Sycamore canyon, Trail canyon, Trail creek, Trout
19 creek, Turkey creek, Turkey Feather creek, Turnbo canyon, West Fork Gila river, West Fork Mogollon creek, White
20 creek, Willow creek, Woodrow canyon.

21 (d) The following waters are designated in the Canadian River basin: in the Pecos
22 wilderness Daily creek, Johns canyon, Middle Fork Lake of Rio de la Casa, Middle Fork Rio de la Casa, North Fork
23 Lake of Rio de la Casa, Rito de Gascon, Rito San Jose, Sapello river, South Fork Rio de la Casa, Sparks creek
24 (Manuelitas creek).

25 (e) The following waters are designated in the San Francisco River basin:

26 (i) in the Blue Range wilderness: Pueblo creek;
27 (ii) in the Gila wilderness: Big Dry creek, Lipsey canyon, Little Dry creek,
28 Little Whitewater creek, South Fork Whitewater creek, Spider creek, Spruce creek, Whitewater creek.

29 (f) The following waters are designated in the Mimbres Closed basin: in the Aldo
30 Leopold wilderness Corral canyon, Mimbres river, North Fork Mimbres river, South Fork Mimbres river.

31 (g) The following waters are designated in the Tularosa Closed basin: in the White
32 Mountain wilderness Indian creek, Nogal Arroyo, Three Rivers.

33 (h) The wetlands designated are identified on the *Maps and List of Wetlands Within*
34 *United States Forest Service Wilderness Areas Designated as Outstanding National Resource Waters* published at
35 the New Mexico state library and available on the department's website.

36 [20.6.4.9 NMAC - Rn, Subsections B, C and D of 20.6.4.8 NMAC, 05-23-05; A, 05-23-05; A, 07-17-05; A, 02-16-
37 06; A, 12-01-10; A, 01-14-11]

38 39 **20.6.4.10 REVIEW OF STANDARDS; NEED FOR ADDITIONAL STUDIES:**

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

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

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

51 **D. Site-specific criteria.**

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

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

1 (b) physical or chemical characteristics at a site such as pH or hardness alter the
2 biological availability and/or toxicity of the chemical;
3 (c) physical, biological or chemical factors alter the bioaccumulation potential of a
4 chemical;
5 (d) the concentration resulting from natural background exceeds numeric criteria for
6 aquatic life, wildlife habitat or other uses if consistent with Subsection E of 20.6.4.10 NMAC; or
7 (e) other factors or combination of factors that upon review of the commission may
8 warrant modification of the default criteria, subject to EPA review and approval.

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

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

14 (a) identify the specific waters to which the site-specific criteria would apply;
15 (b) explain the rationale for proposing the site-specific criteria;
16 (c) describe the methods used to notify and solicit input from potential stakeholders
17 and from the general public in the affected area, and present and respond to the public input received;
18 (d) present and justify the derivation of the proposed criteria.

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

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

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

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

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

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

32 **E. Site-specific criteria based on natural background.** The commission may adopt site-specific
33 criteria equal to the concentration resulting from natural background where that concentration protects the
34 designated use. The concentration resulting from natural background supports the level of aquatic life and wildlife
35 habitat expected to occur naturally at the site absent any interference by humans. Domestic water supply, primary or
36 secondary contact, or human health-organism only criteria shall not be modified based on natural background. A
37 determination of natural background shall:

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

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

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

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

44 **F. Temporary standards:**

45 (1) Any person may petition the commission to adopt a temporary standard applicable to all
46 or part of a surface water of the state as provided for in this section and applicable sections in 40 CFR Part 131,
47 Water Quality Standards; specifically, Section 131.14. The commission may adopt a proposed temporary standard
48 if the petitioner demonstrates that:

49 (a) attainment of the associated designated use may not be feasible in the short term
50 due to one or more of the factors listed in 40 CFR 131.10(g), or due to the implementation of actions necessary to
51 facilitate restoration such as through dam removal or other significant wetland or water body reconfiguration
52 activities as demonstrated by the petition and supporting work plan requirements in Paragraphs (4) and (5) of
53 Subsection F of 20.6.4.10 NMAC;

54 (b) the proposed temporary standard represents the highest degree of protection
55 feasible in the short term, limits the degradation of water quality to the minimum necessary to achieve the original

1 standard by the expiration date of the temporary standard, and adoption will not cause the further impairment or loss
2 of an existing use;

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

6 (d) for restoration activities, nonpoint source or other control technologies shall
7 limit downstream impacts, and if applicable, existing or proposed discharge control technologies shall be in place
8 consistent with Subparagraph (c) of Paragraph (1) of Subsection F of 20.6.4.10 NMAC.

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

12 (3) Designated use attainment as reported in the federal Clean Water Act, Section
13 305(b)/303(d) Integrated Report shall be based on the original standard and not on a temporary standard.

14 (4) A petition for a temporary standard shall:

15 (a) identify the currently applicable standard(s), the proposed temporary standard
16 for the specific pollutant(s), the permittee(s), and the specific surface water body segment(s) of the state to which the
17 temporary standard would apply;

18 (b) include the basis for any factor(s) specific to the applicability of the temporary
19 standard (for example critical flow under Subsection B of 20.6.4.11 NMAC);

20 (c) demonstrate that the proposed temporary standard meets the requirements in this
21 subsection;

22 (d) present a work plan with timetable of proposed actions for achieving compliance
23 with the original standard in accordance with Paragraph (5) of Subsection F of 20.6.4.10 NMAC;

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

25 (5) As a condition of a petition for a temporary standard, in addition to meeting the
26 requirements in this Subsection, the petitioner shall prepare a work plan in accordance with Paragraph (4) of
27 Subsection F of 20.6.4.10 NMAC and submit the work plan to the department for review and comment. The work
28 plan shall identify the factor(s) listed in 40 CFR 131.10(g) or Subparagraph (a) of Paragraph (1) of Subsection F of
29 20.6.4.10 NMAC affecting attainment of the standard that will be analyzed and the timeline for proposed actions to
30 be taken to achieve the uses attainable over the term of the temporary standard, including baseline water quality, and
31 any investigations, projects, facility modifications, monitoring, or other measures necessary to achieve compliance
32 with the original standard. The work plan shall include provisions for review of progress in accordance with
33 Paragraph (8) of Subsection F of 20.6.4.10 NMAC, public notice and consultation with appropriate state, tribal,
34 local and federal agencies.

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

38 (7) Temporary standards may be implemented only after a public hearing before the
39 commission, commission approval and adoption pursuant to Subsection F of 20.6.4.10 NMAC for all state purposes,
40 and the federal Clean Water Act Section 303 (c) approval for any federal action.

41 (8) All temporary standards are subject to a required review during each succeeding review
42 of water quality standards conducted in accordance with Subsection A of 20.6.4.10 NMAC. The petitioner shall
43 provide a written report to the commission documenting the progress of proposed actions, pursuant to a reporting
44 schedule stipulated in the approved temporary standard. The purpose of the review is to determine progress
45 consistent with the original conditions of the petition for the duration of the temporary standard. If the petitioner
46 cannot demonstrate that sufficient progress has been made the commission may revoke approval of the temporary
47 standard or provide additional conditions to the approval of the temporary standard.

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

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

54 (11) Temporary standards shall be identified in 20.6.4.97-899 NMAC as appropriate for the
55 surface water affected.

1 (12) "Temporary standard" means a time-limited designated use and criterion for a specific
2 pollutant(s) or water quality parameter(s) that reflect the highest attainable condition during the term of the
3 temporary standard.
4 [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;
5 A, 03-02-2017]

6
7 **20.6.4.11 APPLICABILITY OF WATER QUALITY STANDARDS:**

8 **A. [RESERVED]**

9 **B. Critical low flow:** The critical low flow of a stream at a particular site shall be used in developing
10 point source discharge permit requirements to meet numeric criteria set in 20.6.4.97 through 20.6.4.900 NMAC and
11 Subsection F of 20.6.4.13 NMAC.

12 (1) For human health-organism only criteria, the critical low flow is the harmonic mean flow;
13 "harmonic mean flow" is the number of daily flow measurements divided by the sum of the reciprocals of the flows;
14 that is, it is the reciprocal of the mean of reciprocals. For ephemeral waters the calculation shall be based upon the
15 nonzero flow intervals and modified by including a factor to adjust for the proportion of intervals with zero flow.
16 The equations are as follows:

17
18 Harmonic Mean = $\frac{n}{\sum 1/Q}$

19
20
21 where n = number of flow values
22 and Q = flow value

23 Modified Harmonic Mean = $\left[\frac{\sum_{i=1}^{Nt-N_0} \frac{1}{Q_i}}{Nt - N_0} \right]^{-1} \times \left[\frac{Nt - N_0}{Nt} \right]$

24 where Q_i = nonzero flow
25 Nt = total number of flow values
26 and N_0 = number of zero flow values

27
28 (2) For all other narrative and numeric criteria, the critical low flow is the minimum average
29 four consecutive day flow that occurs with a frequency of once in three years (4Q3). The critical low flow may be
30 determined on an annual, a seasonal or a monthly basis, as appropriate, after due consideration of site-specific
31 conditions.

32 **C. Guaranteed minimum flow:** The commission may allow the use of a contractually guaranteed
33 minimum streamflow in lieu of a critical low flow determined under Subsection B of this section on a case-by-case
34 basis and upon consultation with the interstate stream commission. Should drought, litigation or any other reason
35 interrupt or interfere with minimum flows under a guaranteed minimum flow contract for a period of at least 30
36 consecutive days, such permission, at the sole discretion of the commission, may then be revoked. Any minimum
37 flow specified under such revoked permission shall be superseded by a critical low flow determined under
38 Subsection B of this section. A public notice of the request for a guaranteed minimum flow shall be published in a
39 newspaper of general circulation by the department at least 30 days prior to scheduled action by the commission.
40 These water quality standards do not grant to the commission or any other entity the power to create, take away or
41 modify property rights in water.

42 **D. Mixing zones:** A limited mixing zone, contiguous to a point source wastewater discharge, may be
43 allowed in any stream receiving such a discharge. Mixing zones serve as regions of initial dilution that allow the
44 application of a dilution factor in calculations of effluent limitations. Effluent limitations shall be developed that
45 will protect the most sensitive existing, designated or attainable use of the receiving water.

46 **E. Mixing zone limitations:** Wastewater mixing zones, in which the numeric criteria set under
47 Subsection F of 20.6.4.13 NMAC, 20.6.4.97 through 20.6.4.899 NMAC or 20.6.4.900 NMAC may be exceeded,
48 shall be subject to the following limitations:

1 (1) Mixing zones are not allowed for discharges to lakes, reservoirs, or playas; these
2 effluents shall meet all applicable criteria set under Subsection F of 20.6.4.13 NMAC, 20.6.4.97 through 20.6.4.899
3 NMAC and 20.6.4.900 NMAC at the point of discharge.

4 (2) The acute aquatic life criteria, as set out in Subsection I, Subsection J, and Subsection K
5 of 20.6.4.900 NMAC, shall be attained at the point of discharge for any discharge to a surface water of the state with
6 a designated aquatic life use.

7 (3) The general criteria set out in Subsections A, B, C, D, E, G, H and J of 20.6.4.13 NMAC,
8 and the provision set out in Subsection D of 20.6.4.14 NMAC are applicable within mixing zones.

9 (4) The areal extent and concentration isopleths of a particular mixing zone will depend on
10 site-specific conditions including, but not limited to, wastewater flow, receiving water critical low flow, outfall
11 design, channel characteristics and climatic conditions and, if needed, shall be determined on a case-by-case basis.
12 When the physical boundaries or other characteristics of a particular mixing zone must be known, the methods
13 presented in Section 4.4.5, "Ambient-induced mixing," in "Technical support document for water quality-based
14 toxics control" (March 1991, EPA/505/2-90-001) shall be used.

15 (5) All applicable water quality criteria set under Subsection F of 20.6.4.13 NMAC,
16 20.6.4.97 through 20.6.4.899 NMAC and 20.6.4.900 NMAC shall be attained at the boundaries of mixing zones. A
17 continuous zone of passage through or around the mixing zone shall be maintained in which the water quality meets
18 all applicable criteria and allows the migration of aquatic life presently common in surface waters of the state with
19 no effect on their populations.

20 **F. Multiple uses:** When a surface water of the state has more than a single designated use, the
21 applicable numeric criteria shall be the most stringent of those established for such water.

22 **G. Human health-organism only criteria** in Subsection J of 20.6.4.900 NMAC apply to those waters
23 with a designated, existing or attainable aquatic life use. When limited aquatic life is a designated use, the human
24 health-organism only criteria apply only if adopted on a segment-specific basis. The human health-organism only
25 criteria for persistent toxic pollutants, as identified in Subsection J of 20.6.4.900 NMAC, also apply to all tributaries
26 of waters with a designated, existing or attainable aquatic life use.

27 **H. Unclassified waters of the state:** Unclassified waters of the state are those surface waters of the
28 state not identified in 20.6.4.101 through 20.6.4.899 NMAC. An unclassified surface water of the state is presumed
29 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
30 NMAC if nonperennial or subject to 20.6.4.99 NMAC if perennial. The commission may include an ephemeral
31 unclassified surface water of the state under 20.6.4.97 NMAC only if a use attainability analysis demonstrates
32 pursuant to 20.6.4.15 NMAC that attainment of Section 101(a)(2) uses is not feasible.

33 **I. Exceptions:** Numeric criteria for temperature, dissolved solids, dissolved oxygen, sediment or
34 turbidity adopted under the Water Quality Act do not apply when changes in temperature, dissolved solids,
35 dissolved oxygen, sediment or turbidity in a surface water of the state are attributable to:

36 (1) natural causes (discharges from municipal separate storm sewers are not covered by this
37 exception.); or

38 (2) the reasonable operation of irrigation and flood control facilities that are not subject to
39 federal or state water pollution control permitting; major reconstruction of storage dams or diversion dams except
40 for emergency actions necessary to protect health and safety of the public are not covered by this exception.
41 [20.6.4.11 NMAC - Rp 20 NMAC 6.1.1103, 10-12-00; A, 10-11-02; Rn, 20.6.4.10 NMAC, 05-23-05; A, 05-23-05;
42 A, 12-01-10]

43
44 **20.6.4.12 COMPLIANCE WITH WATER QUALITY STANDARDS:** The following provisions apply
45 to determining compliance for enforcement purposes; they do not apply for purposes of determining attainment of
46 uses. The department has developed assessment protocols for the purpose of determining attainment of uses that are
47 available for review from the department's surface water quality bureau.

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

50 **B.** Compliance with chronic water quality criteria shall be determined from the arithmetic mean of
51 the analytical results of samples collected using applicable protocols. Chronic criteria shall not be exceeded more
52 than once every three years.

53 **C.** Compliance with water quality standards for total ammonia shall be determined by performing the
54 biomonitoring procedures set out in Subsections D and E of 20.6.4.14 NMAC, or by attainment of applicable
55 ammonia criteria set out in Subsections K, L and M of 20.6.4.900 NMAC.

1 **D.** Compliance with the human health-organism only criteria shall be determined from the analytical
2 results of representative grab samples, as defined in the water quality management plan. Human health-organism
3 only criteria shall not be exceeded.

4 **E.** The commission may establish a numeric water quality criterion at a concentration that is below
5 the minimum quantification level. In such cases, the water quality standard is enforceable at the minimum
6 quantification level.

7 **F.** For compliance with hardness-dependent numeric criteria, dissolved hardness (as mg CaCO₃/L)
8 shall be determined from a sample taken at the same time that the sample for the contaminant is taken.

9 **G. Compliance schedules:** It shall be the policy of the commission to allow on a case-by-case basis
10 the inclusion of a schedule of compliance in a NPDES permit issued to an existing facility. Such schedule of
11 compliance will be for the purpose of providing a permittee with adequate time to make treatment facility
12 modifications necessary to comply with water quality based permit limitations determined to be necessary to
13 implement new or revised water quality standards or wasteload allocation. Compliance schedules may be included
14 in NPDES permits at the time of permit renewal or modification and shall be written to require compliance at the
15 earliest practicable time. Compliance schedules shall also specify milestone dates so as to measure progress towards
16 final project completion (e.g., design completion, construction start, construction completion, date of compliance).

17 **H.** It is a policy of the commission to allow a temporary standard approved and adopted pursuant to
18 Subsection F of 20.6.4.10 NMAC to be included in the applicable federal Clean Water Act permit as enforceable
19 limits and conditions. The temporary standard and any schedule of actions may be included at the earliest
20 practicable time, and shall specify milestone dates so as to measure progress towards meeting the original standard.
21 [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;
22 A, 12-01-10; A, 03-02-2017]

23
24 **20.6.4.13 GENERAL CRITERIA:** General criteria are established to sustain and protect existing or
25 attainable uses of surface waters of the state. These general criteria apply to all surface waters of the state at all
26 times, unless a specified criterion is provided elsewhere in this part. Surface waters of the state shall be free of any
27 water contaminant in such quantity and of such duration as may with reasonable probability injure human health,
28 animal or plant life or property, or unreasonably interfere with the public welfare or the use of property.

29 **A. Bottom deposits and suspended or settleable solids:**

30 (1) Surface waters of the state shall be free of water contaminants including fine sediment
31 particles (less than two millimeters in diameter), precipitates or organic or inorganic solids from other than natural
32 causes that have settled to form layers on or fill the interstices of the natural or dominant substrate in quantities that
33 damage or impair the normal growth, function or reproduction of aquatic life or significantly alter the physical or
34 chemical properties of the bottom.

35 (2) Suspended or settleable solids from other than natural causes shall not be present in
36 surface waters of the state in quantities that damage or impair the normal growth, function or reproduction of aquatic
37 life or adversely affect other designated uses.

38 **B. Floating solids, oil and grease:** Surface waters of the state shall be free of oils, scum, grease and
39 other floating materials resulting from other than natural causes that would cause the formation of a visible sheen or
40 visible deposits on the bottom or shoreline, or would damage or impair the normal growth, function or reproduction
41 of human, animal, plant or aquatic life.

42 **C. Color:** Color-producing materials resulting from other than natural causes shall not create an
43 aesthetically undesirable condition nor shall color impair the use of the water by desirable aquatic life presently
44 common in surface waters of the state.

45 **D. Organoleptic quality:**

46 (1) **Flavor of fish:** Water contaminants from other than natural causes shall be limited to
47 concentrations that will not impart unpalatable flavor to fish.

48 (2) **Odor and taste of water:** Water contaminants from other than natural causes shall be
49 limited to concentrations that will not result in offensive odor or taste arising in a surface water of the state or
50 otherwise interfere with the reasonable use of the water.

51 **E. Plant nutrients:** Plant nutrients from other than natural causes shall not be present in
52 concentrations that will produce undesirable aquatic life or result in a dominance of nuisance species in surface
53 waters of the state.

54 **F. Toxic pollutants:**

55 (1) Except as provided in 20.6.4.16 NMAC, surface waters of the state shall be free of toxic
56 pollutants from other than natural causes in amounts, concentrations or combinations that affect the propagation of

1 fish or that are toxic to humans, livestock or other animals, fish or other aquatic organisms, wildlife using aquatic
2 environments for habitation or aquatic organisms for food, or that will or can reasonably be expected to
3 bioaccumulate in tissues of fish, shellfish and other aquatic organisms to levels that will impair the health of aquatic
4 organisms or wildlife or result in unacceptable tastes, odors or health risks to human consumers of aquatic
5 organisms.

6 (2) Pursuant to this section, the human health-organism only criteria shall be as set out in
7 20.6.4.900 NMAC. When a human health-organism only criterion is not listed in 20.6.4.900 NMAC, the following
8 provisions shall be applied in accordance with 20.6.4.11, 20.6.4.12 and 20.6.4.14 NMAC.

9 (a) The human health-organism only criterion shall be the recommended human
10 health criterion for "consumption of organisms only" published by the U.S. environmental protection agency
11 pursuant to Section 304(a) of the federal Clean Water Act. In determining such criterion for a cancer-causing toxic
12 pollutant, a cancer risk of 10^{-5} (one cancer per 100,000 exposed persons) shall be used.

13 (b) When a numeric criterion for the protection of human health for the
14 consumption of organism only has not been published by the U.S. environmental protection agency, a quantifiable
15 criterion may be derived from data available in the U.S. environmental protection agency's Integrated Risk
16 Information System (IRIS) using the appropriate formula specified in *Methodology For Deriving Ambient Water*
17 *Quality Criteria For The Protection Of Human Health (2000)*, EPA-822-B-00-004.

18 (3) Pursuant to this section, the chronic aquatic life criteria shall be as set out in 20.6.4.900
19 NMAC. When a chronic aquatic life criterion is not listed in 20.6.4.900 NMAC, the following provisions shall be
20 applied in sequential order in accordance with 20.6.4.11, 20.6.4.12 and 20.6.4.14 NMAC.

21 (a) The chronic aquatic life criterion shall be the "freshwater criterion continuous
22 concentration" published by the U.S. environmental protection agency pursuant to Section 304(a) of the federal
23 Clean Water Act;

24 (b) If the U.S. environmental protection agency has not published a chronic aquatic
25 life criterion, a geometric mean LC-50 value shall be calculated for the particular species, genus or group that is
26 representative of the form of life to be preserved, using the results of toxicological studies published in scientific
27 journals.

28 (i) The chronic aquatic life criterion for a toxic pollutant that does not
29 bioaccumulate shall be ten percent of the calculated geometric mean LC-50 value; and

30 (ii) The chronic aquatic life criterion for a toxic pollutant that does
31 bioaccumulate shall be: the calculated geometric mean LC-50 adjusted by a bioaccumulation factor for the particular
32 species, genus or group representative of the form of life to be preserved, but when such bioaccumulation factor has
33 not been published, the criterion shall be one percent of the calculated geometric mean LC-50 value.

34 (4) Pursuant to this section, the acute aquatic life criteria shall be as set out in 20.6.4.900
35 NMAC. When an acute aquatic life criterion is not listed in 20.6.4.900 NMAC, the acute aquatic life criterion shall
36 be the "freshwater criterion maximum concentration" published by the U.S. environmental protection agency
37 pursuant to Section 304(a) of the federal Clean Water Act.

38 (5) Within 90 days of the issuance of a final NPDES permit containing a numeric criterion
39 selected or calculated pursuant to Paragraph 2, Paragraph 3 or Paragraph 4 of Subsection F of this section, the
40 department shall petition the commission to adopt such criterion into these standards.

41 **G. Radioactivity:** The radioactivity of surface waters of the state shall be maintained at the lowest
42 practical level and shall in no case exceed the criteria set forth in the New Mexico Radiation Protection Regulations,
43 20.3.1 and 20.3.4 NMAC.

44 **H. Pathogens:** Surface waters of the state shall be free of pathogens from other than natural causes
45 in sufficient quantity to impair public health or the designated, existing or attainable uses of a surface water of the
46 state.

47 **I. Temperature:** Maximum temperatures for surface waters of the state have been specified in
48 20.6.4.97 through 20.6.4.900 NMAC. However, the introduction of heat by other than natural causes shall not
49 increase the temperature, as measured from above the point of introduction, by more than 2.7°C (5°F) in a stream, or
50 more than 1.7°C (3°F) in a lake or reservoir. In no case will the introduction of heat be permitted when the
51 maximum temperature specified for the reach would thereby be exceeded. These temperature criteria shall not apply
52 to impoundments constructed offstream for the purpose of heat disposal. High water temperatures caused by
53 unusually high ambient air temperatures are not violations of these criteria.

54 **J. Turbidity:** Turbidity attributable to other than natural causes shall not reduce light transmission
55 to the point that the normal growth, function or reproduction of aquatic life is impaired or that will cause substantial
56 visible contrast with the natural appearance of the water. Activities or discharges shall not cause turbidity to

1 increase more than 10 NTU over background turbidity when the background turbidity, measured at a point
2 immediately upstream of the activity, is 50 NTU or less, nor to increase more than twenty percent when the
3 background turbidity is more than 50 NTU. However, limited-duration turbidity increases caused by dredging,
4 construction or other similar activities may be allowed provided all practicable turbidity control techniques have
5 been applied and all appropriate permits, certifications and approvals have been obtained.

6 **K. Total dissolved solids (TDS):** TDS attributable to other than natural causes shall not damage or
7 impair the normal growth, function or reproduction of animal, plant or aquatic life. TDS shall be measured by either
8 the "calculation method" (sum of constituents) or the filterable residue method. Approved test procedures for these
9 determinations are set forth in 20.6.4.14 NMAC.

10 **L. Dissolved gases:** Surface waters of the state shall be free of nitrogen and other dissolved gases at
11 levels above one hundred ten percent saturation when this supersaturation is attributable to municipal, industrial or
12 other discharges.

13 **M. Biological integrity:** Surface waters of the state shall support and maintain a balanced and
14 integrated community of aquatic organisms with species composition, diversity and functional organization
15 comparable to those of natural or minimally impacted water bodies of a similar type and region.
16 [20.6.4.13 NMAC - Rp 20 NMAC 6.1.1105, 10-12-00; A, 10-11-02; Rn, 20.6.4.12 NMAC, 05-23-05; A, 05-23-05;
17 A, 12-01-10]

18 19 **20.6.4.14 SAMPLING AND ANALYSIS:**

20 **A.** Sampling and analytical techniques shall conform with methods described in the following
21 references unless otherwise specified by the commission pursuant to a petition to amend these standards:

22 (1) *"Guidelines Establishing Test Procedures For The Analysis Of Pollutants Under The*
23 *Clean Water Act,"* 40 CFR Part 136 or any test procedure approved or accepted by EPA using procedures provided
24 in 40 CFR Parts 136.3(d), 136.4, and 136.5;

25 (2) *Standard Methods For The Examination Of Water And Wastewater*, latest edition,
26 American public health association;

27 (3) *Methods For Chemical Analysis Of Water And Waste*, and other methods published by
28 EPA office of research and development or office of water;

29 (4) *Techniques Of Water Resource Investigations Of The U.S. Geological Survey*;

30 (5) *Annual Book Of ASTM Standards*: volumes 11.01 and 11.02, water (I) and (II), latest
31 edition, ASTM international;

32 (6) *Federal Register*, latest methods published for monitoring pursuant to Resource
33 Conservation and Recovery Act regulations;

34 (7) *National Handbook Of Recommended Methods For Water-Data Acquisition*, latest
35 edition, prepared cooperatively by agencies of the United States government under the sponsorship of the U.S.
36 geological survey; or

37 (8) *Federal Register*, latest methods published for monitoring pursuant to the Safe Drinking
38 Water Act regulations.

39 **B. Bacteriological Surveys:** The monthly geometric mean shall be used in assessing attainment of
40 criteria when a minimum of five samples is collected in a 30-day period.

41 **C. Sampling Procedures:**

42 (1) Streams: Stream monitoring stations below discharges shall be located a sufficient
43 distance downstream to ensure adequate vertical and lateral mixing.

44 (2) Lakes: Sampling stations in lakes shall be located at least 250 feet from a discharge.

45 (3) Lakes: Except for the restriction specified in Paragraph (2) of this subsection, lake
46 sampling stations shall be located at any site where the attainment of a water quality criterion is to be assessed.
47 Water quality measurements taken at intervals in the entire water column at a sampling station shall be averaged for
48 the epilimnion, or in the absence of an epilimnion, for the upper one-third of the water column of the lake to
49 determine attainment of criteria, except that attainment of criteria for toxic pollutants shall be assessed during
50 periods of complete vertical mixing, e.g., during spring or fall turnover, or by taking depth-integrated composite
51 samples of the water column.

52 **D.** Acute toxicity of effluent to aquatic life shall be determined using the procedures specified in U.S.
53 environmental protection agency *"Methods For Measuring The Acute Toxicity Of Effluents And Receiving Waters*
54 *To Freshwater And Marine Organisms"* (5th Ed., 2002, EPA 821-R-02-012), or latest edition thereof if adopted by
55 EPA at 40 CFR Part 136, which is incorporated herein by reference. Acute toxicities of substances shall be
56 determined using at least two species tested in whole effluent and a series of effluent dilutions. Acute toxicity due to

1 discharges shall not occur within the wastewater mixing zone in any surface water of the state with an existing or
2 designated aquatic life use.

3 **E.** Chronic toxicity of effluent or ambient surface waters of the state to aquatic life shall be
4 determined using the procedures specified in U.S. environmental protection agency “*Short-Term Methods For*
5 *Estimating The Chronic Toxicity Of Effluents And Receiving Waters To Freshwater Organisms*” (4th Ed., 2002, EPA
6 821-R-02-013), or latest edition thereof if adopted by EPA at 40 CFR Part 136, which is incorporated herein by
7 reference. Chronic toxicities of substances shall be determined using at least two species tested in ambient surface
8 water or whole effluent and a series of effluent dilutions. Chronic toxicity due to discharges shall not occur at the
9 critical low flow, or any flow greater than the critical low flow, in any surface water of the state with an existing or
10 designated aquatic life use more than once every three years.

11 [20.6.4.14 NMAC - Rp 20 NMAC 6.1.1106, 10-12-00; Rn, 20.6.4.13 NMAC, 05-23-05 & A, 05-23-05; A, 12-01-
12 10]
13

14 **20.6.4.15 USE ATTAINABILITY ANALYSIS:**

15 **A.** A use attainability analysis is a scientific study conducted for the purpose of assessing the factors
16 affecting the attainment of a use. Whenever a use attainability analysis is conducted, it shall be subject to the
17 requirements and limitations set forth in 40 CFR Part 131, Water Quality Standards; specifically, Subsections
18 131.3(g), 131.10(g), 131.10(h) and 131.10(j) shall be applicable.

19 (1) The commission may remove a designated use specified in Section 101(a)(2) of the
20 federal Clean Water Act or adopt subcategories of a Section 101(a)(2) use requiring less stringent criteria only if a
21 use attainability analysis demonstrates that attaining the use is not feasible because of a factor listed in 40 CFR
22 131.10(g). Section 101(a)(2) uses, which refer to the protection and propagation of fish, shellfish and wildlife and
23 recreation in and on the water, are also specified in Subsection B of 20.6.4.6 NMAC.

24 (2) A designated use cannot be removed if it is an existing use unless a use requiring more
25 stringent criteria is designated.

26 **B.** A use attainability analysis shall assess the physical, chemical, biological, economic or other
27 factors affecting the attainment of a use. The analysis shall rely on scientifically defensible methods such as the
28 methods described in the following documents:

29 (1) *Technical Support Manual: Waterbody Surveys And Assessments For Conducting Use*
30 *Attainability Analyses*, volume I (November 1983) and volume III (November 1984) or latest editions, United States
31 environmental protection agency, office of water, regulations and standards, Washington, D.C., for the evaluation of
32 aquatic life or wildlife uses;

33 (2) the department’s *Hydrology Protocol*, latest edition, approved by the commission, for
34 identifying ephemeral and intermittent waters; or

35 (3) *Interim Economic Guidance For Water Quality Standards - Workbook*, March 1995,
36 United States environmental protection agency, office of water, Washington, D.C. for evaluating economic impacts.

37 **C.** If a use attainability analysis based on the department’s *Hydrology Protocol* (latest edition),
38 approved by the commission, demonstrates to the satisfaction of the department that Section 101(a)(2) uses are not
39 feasible in an ephemeral water body, the department shall post the use attainability analysis on its water quality
40 standards website and notify its interested parties list of a 30-day public comment period. After reviewing any
41 comments received, the department may proceed by submitting the use attainability analysis and response to
42 comments to region 6 EPA for technical approval. If technical approval is granted, the water shall be subject to
43 20.6.4.97 NMAC. The use attainability analysis, the technical approval, and the applicability of 20.6.4.97 NMAC to
44 the water shall be posted on the department’s water quality standards website. The department shall periodically
45 petition the commission to list ephemeral waters under Subsection C of 20.6.4.97 NMAC and to incorporate changes
46 to classified segments as appropriate.

47 **D.** **Use attainability analysis conducted by an entity other than the department.** Any person may
48 submit notice to the department stating the intent to conduct a use attainability analysis. The proponent shall
49 develop a work plan to conduct the use attainability analysis and shall submit the work plan to the department and
50 region 6 EPA for review and comment. The work plan shall identify the scope of data currently available and the
51 scope of data to be gathered, the factors affecting use attainment that will be analyzed and provisions for public
52 notice and consultation with appropriate state and federal agencies. Upon approval of the work plan by the
53 department, the proponent shall conduct the use attainability analysis in accordance with the approved work plan.
54 The cost of such analysis shall be the responsibility of the proponent. Upon completion of the use attainability
55 analysis, the proponent shall submit the data, findings and conclusions to the department. The department or the

1 proponent may petition the commission to modify the designated use if the conclusions of the analysis support such
2 action.
3 [20.6.4.15 NMAC - Rp 20 NMAC 6.1.1107, 10-12-00; Rn, 20.6.4.14 NMAC, 05-23-05; A, 05-23-05; A, 07-17-05;
4 A, 12-01-10]
5

6 **20.6.4.16 PLANNED USE OF A PISCICIDE:** The use of a piscicide registered under the Federal
7 Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S.C. Section 136 *et seq.*, and under the New Mexico
8 Pesticide Control Act (NMPCA), Section 76-4-1 *et seq.* NMSA 1978 (1973) in a surface water of the state, shall not
9 be a violation of Subsection F of 20.6.4.13 NMAC when such use is covered by a federal national pollutant
10 discharge elimination system (NPDES) permit or has been approved by the commission under procedures provided
11 in this section. The use of a piscicide which is covered by a NPDES permit shall require no further review by the
12 commission and the person whose application is covered by the NPDES permit shall meet the additional notification
13 and monitoring requirements outlined in Subsection G of 20.6.4.16 NMAC. The commission may approve the
14 reasonable use of a piscicide under this section if the proposed use is not covered by a NPDES permit to further a
15 Clean Water Act objective to restore and maintain the physical or biological integrity of surface waters of the state,
16 including restoration of native species.

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

20 (1) petitioner's name and address;
21 (2) identity of the piscicide and the period of time (not to exceed five years) or number of
22 applications for which approval is requested;
23 (3) documentation of registration under FIFRA and NMPCA and certification that the
24 petitioner intends to use the piscicide according to the label directions, for its intended function;
25 (4) target and potential non-target species in the treated waters and adjacent riparian area,
26 including threatened or endangered species;
27 (5) potential environmental consequences to the treated waters and the adjacent riparian area,
28 and protocols for limiting such impacts;
29 (6) surface water of the state proposed for treatment;
30 (7) results of pre-treatment survey;
31 (8) evaluation of available alternatives and justification for selecting piscicide use;
32 (9) documentation of notice requesting public comment on the proposed use within a 30-day
33 period, including information as described in Paragraphs (1), (2) and (6) of Subsection A of 20.6.4.16 NMAC,
34 provided to:

35 (a) local political subdivisions;
36 (b) local water planning entities;
37 (c) local conservancy and irrigation districts; and
38 (d) local media outlets, except that the petitioner shall only be required to publish
39 notice in a newspaper of circulation in the locality affected by the proposed use.
40 (10) copies of public comments received in response to the publication of notice and the
41 petitioner's responses to public comments received;
42 (11) post-treatment assessment monitoring protocol; and
43 (12) any other information required by the commission.

44 **B.** Within 30 days of receipt of the petition, the department shall review the petition and file a
45 recommendation with the commission to grant, grant with conditions or deny the petition. The recommendation
46 shall include reasons, and a copy shall be sent to the petitioner by certified mail.

47 **C.** The commission shall review the petition, the public comments received under Paragraphs (9) and
48 (10) of Subsection A of 20.6.4.16 NMAC, the petitioner's responses to public comments and the department's
49 technical recommendations for the petition. A public hearing shall be held if the commission determines there is
50 substantial public interest. The commission shall notify the petitioner and those commenting on the petition of the
51 decision whether to hold a hearing and the reasons therefore in writing.

52 **D.** If the commission determines there is substantial public interest a public hearing shall be held
53 within 90 days of receipt of the department's recommendation in the locality affected by the proposed use in
54 accordance with 20.1.3 NMAC, Adjudicatory Procedures - Water Quality Control Commission. Notice of the
55 hearing shall be given in writing by the petitioner to individuals listed under Subsection A of 20.6.4.16 NMAC as
56 well as to individuals who provided public comment under that subsection at least 30 days prior to the hearing.

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

- 5 (1) Its composition is such as to warrant the proposed claims for it;
6 (2) Its labeling and other material submitted for registration comply with the requirements of
7 FIFRA and NMPCA;
8 (3) It will perform its intended function without unreasonable adverse effects on the
9 environment; and
10 (4) When used in accordance with all FIFRA label requirements it will not generally cause
11 unreasonable adverse effects on the environment.

12 (5) “Unreasonable adverse effects on the environment” has the meaning provided in FIFRA,
13 7 U.S.C. Section 136(bb): “any unreasonable risk to man or the environment, taking into account the economic,
14 social, and environmental costs and benefits of the use of any pesticide.”

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

20 G. Any person whose application is covered by a NPDES permit shall provide written notice to local
21 entities as described in Subsection A of 20.6.4.16 NMAC and implement post-treatment assessment monitoring
22 within the application area as described in Subsection F of 20.6.4.16 NMAC.
23 [20.6.4.16 NMAC - Rn, Paragraph (6) of Subsection F of 20.6.4.12 NMAC, 05-23-2005; A, 05-23-2005; A, 03-02-
24 2017]

25
26 **20.6.4.17 - 20.6.4.49 [RESERVED]**

27
28 **20.6.4.50 BASINWIDE PROVISIONS - Special provisions arising from interstate compacts,**
29 **international treaties or court decrees or that otherwise apply to a basin are contained in 20.6.4.51 through**
30 **20.6.4.59 NMAC.**

31 [20.6.4.50 NMAC - N, 05-23-05]

32
33 **20.6.4.51 [RESERVED]**

34
35 **20.6.4.52 PECOS RIVER BASIN -** In order to protect existing and designated uses, it is a goal of the state
36 of New Mexico to prevent increases in TDS in the Pecos river above the following benchmark values, which are
37 expressed as flow-weighted, annual average concentrations, at three USGS gaging stations: at Santa Rosa 500 mg/L;
38 near Artesia 2,700 mg/L; and near Malaga 3,600 mg/L. The benchmark values serve to guide state action. They are
39 adopted pursuant to the New Mexico Water Quality Act, not the Clean Water Act.
40 [20.6.4.52 NMAC - N, 12-01-10]

41
42 **20.6.4.53 [RESERVED]**

43
44 **20.6.4.54 COLORADO RIVER BASIN -** For the tributaries of the Colorado river system, the state of
45 New Mexico will cooperate with the Colorado river basin states and the federal government to support and
46 implement the salinity policy and program outlined in the most current “review, water quality standards for
47 salinity, Colorado river system” or equivalent report by the Colorado river salinity control forum.

48 A. Numeric criteria expressed as the flow-weighted annual average concentration for salinity are
49 established at three points in the Colorado river basin as follows: below Hoover dam, 723 mg/L; below Parker dam,
50 747 mg/L; and at Imperial dam, 879 mg/L.

51 B. As a part of the program, objectives for New Mexico shall include the elimination of discharges of
52 water containing solids in solution as a result of the use of water to control or convey fly ash from coal-fired electric
53 generators, wherever practicable.

54 [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]

55
56 **20.6.4.55 - 20.6.4.96 [RESERVED]**

1
2 **20.6.4.97 EPHEMERAL WATERS:** Ephemeral surface waters of the state as identified below and
3 additional ephemeral waters as identified on the department's water quality standards website pursuant to
4 Subsection C of 20.6.4.15 NMAC are subject to the designated uses and criteria as specified in this section.
5 Ephemeral waters classified in 20.6.4.101-899 NMAC are subject to the designated uses and criteria as
6 specified in those sections.

7 **A. Designated uses:** livestock watering, wildlife habitat, limited aquatic life and secondary contact.

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

9 **C. Waters:**

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

11 (a) Cunningham gulch from Santa Fe county road 55 upstream 1.4 miles to a point
12 upstream of the Lac minerals mine, identified as Ortiz mine on U.S. geological survey topographic maps;

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

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

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

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

21 (f) an unnamed tributary from the Albuquerque metropolitan arroyo flood control
22 authority (AMAFCA) Rio Grande south channel upstream of the crossing of New Mexico highway 47 upstream to
23 I-25;

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

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

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

30 (j) an unnamed tributary from San Mateo creek upstream 1.5 miles to the Roca
31 Honda mine facility outfall;

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

34 (l) Tinaja arroyo from San Isidro arroyo upstream to Mulatto canyon; and
35 (m) Mulatto canyon from Tinaja arroyo upstream to 1 mile northeast of the Cibola
36 national forest boundary.

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

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

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

40 (c) Grindstone canyon upstream of Grindstone reservoir.

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

42 (a) Bracket canyon upstream of the Vermejo river;

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

44 and

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

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

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

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

51 (b) an unnamed tributary of Defiance draw from McKinley county road 1 upstream
52 to New Mexico highway 264.

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

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

1 (b) in the Mimbres river closed basin San Vicente arroyo from the Mimbres river
2 upstream to Maudes canyon.
3 [20.6.4.97 NMAC - N, 05-23-2005; A, 12-01-2010; A, 03-02-2017]
4

5 **20.6.4.98 INTERMITTENT WATERS: All non-perennial surface waters of the state, except those**
6 **ephemeral waters included under section 20.6.4.97 NMAC or classified in 20.6.4.101-899 NMAC.**

7 **A. Designated uses:** livestock watering, wildlife habitat, marginal warmwater aquatic life and
8 primary contact.

9 **B. Criteria:** the use-specific criteria in 20.6.4.900 NMAC are applicable to the designated uses,
10 except that the following site-specific criteria apply: the monthly geometric mean of E. coli bacteria 206 cfu/100
11 mL or less, single sample 940 cfu/100 mL or less.

12 [20.6.4.98 NMAC - N, 05-23-2005; A, 12-01-2010; A, 03-02-2017]
13

14 **20.6.4.99 PERENNIAL WATERS: All perennial surface waters of the state except those classified in**
15 **20.6.4.101-899 NMAC.**

16 **A. Designated uses:** Warmwater aquatic life, livestock watering, wildlife habitat and primary
17 contact.

18 **B. Criteria:** The use-specific criteria in 20.6.4.900 NMAC are applicable to the designated uses,
19 except that the following site-specific criteria apply: the monthly geometric mean of E. coli bacteria 206 cfu/100 mL
20 or less, single sample 940 cfu/100 mL or less.

21 [20.6.4.99 NMAC - N, 05-23-2005; A, 12-01-2010; A, 03-02-2017]
22

23 **20.6.4.100 [RESERVED]**
24

25 **20.6.4.101 RIO GRANDE BASIN: The main stem of the Rio Grande from the international boundary**
26 **with Mexico upstream to one mile downstream of Percha dam.**

27 **A. Designated uses:** irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat
28 and primary contact.

29 **B. Criteria:**

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

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

34 **C. Remarks:** sustained flow in the Rio Grande below Caballo reservoir is dependent on release from
35 Caballo reservoir during the irrigation season; at other times of the year, there may be little or no flow.

36 [20.6.4.101 NMAC - Rp 20 NMAC 6.1.2101, 10-12-2000; A, 12-15-2001; A, 05-23-2005; A, 12-01-2010; A, 03-
37 02-2017]
38

39 **20.6.4.102 RIO GRANDE BASIN: The main stem of the Rio Grande from one mile downstream of**
40 **Percha dam upstream to Caballo dam.**

41 **A. Designated uses:** irrigation, livestock watering, wildlife habitat, primary contact and warmwater
42 aquatic life.

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

46 **C. Remarks:** sustained flow in the Rio Grande downstream of Caballo reservoir is dependent on
47 release from Caballo reservoir during the irrigation season; at other times of the year, there may be little or no flow.

48 [20.6.4.102 NMAC - Rp 20 NMAC 6.1.2102, 10-12-2000; A, 05-23-2005; A, 12-01-2010; A, 03-02-2017]
49

50 **20.6.4.103 RIO GRANDE BASIN: - The main stem of the Rio Grande from the headwaters of Caballo**
51 **reservoir upstream to Elephant Butte dam and perennial reaches of tributaries to the Rio Grande in Sierra**
52 **and Socorro counties, excluding waters on tribal lands.**

53 **A. Designated uses:** irrigation, livestock watering, wildlife habitat, marginal coldwater aquatic life,
54 secondary contact and warmwater aquatic life.

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

1 C. **Remarks:** flow in this reach of the Rio Grande main stem is dependent upon release from
2 Elephant Butte dam.
3 [20.6.4.103 NMAC - Rp 20 NMAC 6.1.2103, 10-12-00; A, 05-23-05; A, 12-01-10]
4

5 **20.6.4.104 RIO GRANDE BASIN: - Caballo and Elephant Butte reservoir.**

6 A. **Designated uses:** irrigation storage, livestock watering, wildlife habitat, primary contact and
7 warmwater aquatic life.

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

11 [20.6.4.104 NMAC - Rp 20 NMAC 6.1.2104, 10-12-00; A, 05-23-05; A, 12-01-10]
12

13 **20.6.4.105 RIO GRANDE BASIN: - The main stem of the Rio Grande from the headwaters of Elephant**
14 **Butte reservoir upstream to Alameda bridge (Corrales bridge), excluding waters on Isleta pueblo.**

15 A. **Designated uses:** irrigation, marginal warmwater aquatic life, livestock watering, public water
16 supply, wildlife habitat and primary contact.

17 B. **Criteria:**

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

20 (2) At mean monthly flows above 100 cfs, the monthly average concentration for: TDS 1,500
21 mg/L or less, sulfate 500 mg/L or less and chloride 250 mg/L or less.

22 [20.6.4.105 NMAC - Rp 20 NMAC 6.1.2105, 10-12-00; A, 05-23-05; A, 12-01-10]
23

24 **20.6.4.106 RIO GRANDE BASIN: - The main stem of the Rio Grande from Alameda bridge (Corrales**
25 **bridge) upstream to the Angostura diversion works, excluding waters on Santa Ana pueblo, and intermittent**
26 **water in the Jemez river below the Jemez pueblo boundary, excluding waters on Santa Ana and Zia pueblos,**
27 **that enters the main stem of the Rio Grande. Portions of the Rio Grande in this segment are under the joint**
28 **jurisdiction of the state and Sandia pueblo.**

29 A. **Designated uses:** irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat
30 and primary contact; and public water supply on the Rio Grande.

31 B. **Criteria:**

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

34 (2) At mean monthly flows above 100 cfs, the monthly average concentration for: TDS 1,500
35 mg/L or less, sulfate 500 mg/L or less and chloride 250 mg/L or less.

36 [20.6.4.106 NMAC - Rp 20 NMAC 6.1.2105.1, 10-12-00; A, 05-23-05; A, 12-01-10]
37

38 **20.6.4.107 RIO GRANDE BASIN: - The Jemez river from the Jemez pueblo boundary upstream to**
39 **Soda dam near the town of Jemez Springs and perennial reaches of Vallecito creek.**

40 A. **Designated uses:** coldwater aquatic life, primary contact, irrigation, livestock watering and
41 wildlife habitat; and public water supply on Vallecito creek.

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

44 [20.6.4.107 NMAC - Rp 20 NMAC 6.1.2105.5, 10-12-00; A, 05-23-05; A, 12-01-10]
45

46 **20.6.4.108 RIO GRANDE BASIN: - Perennial reaches of the Jemez river and all its tributaries above**
47 **Soda dam near the town of Jemez Springs, except San Gregorio lake and Sulphur creek above its confluence**
48 **with Redondo creek, and perennial reaches of the Guadalupe river and all its tributaries.**

49 A. **Designated uses:** domestic water supply, fish culture, high quality coldwater aquatic life,
50 irrigation, livestock watering, wildlife habitat and primary contact.

51 B. **Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
52 designated uses, except that the following segment-specific criteria apply: specific conductance 400 µS/cm or less
53 (800 µS/cm or less on Sulphur creek); the monthly geometric mean of *E. coli* bacteria 126 cfu/100 mL or less, single
54 sample 235 cfu/100 mL or less; and pH within the range of 2.0 to 8.8 on Sulphur creek.

55 [20.6.4.108 NMAC - Rp 20 NMAC 6.1.2106, 10-12-00; A, 05-23-05; A, 12-01-10; A, 07-10-12]

1 [NOTE: The segment covered by this section was divided effective 05-23-05. The standards for the additional
2 segment are under 20.6.4.124 NMAC. The standards for San Gregorio lake are in 20.6.4.134 NMAC, effective 07-
3 10-12]

4
5 **20.6.4.109 RIO GRANDE BASIN: - Perennial reaches of Bluewater creek excluding Bluewater lake**
6 **and waters on tribal lands, Rio Moquino upstream of Laguna pueblo, Seboyeta creek, Rio Paguante upstream**
7 **of Laguna pueblo, the Rio Puerco upstream of the northern boundary of Cuba, and all other perennial**
8 **reaches of tributaries to the Rio Puerco, including the Rio San Jose in Cibola county from the USGS gaging**
9 **station at Correo upstream to Horace springs excluding waters on tribal lands.**

10 **A. Designated uses:** coldwater aquatic life, domestic water supply, fish culture, irrigation, livestock
11 watering, wildlife habitat and primary contact; and public water supply on La Jara creek.

12 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
13 designated uses, except that the following segment-specific criteria apply: phosphorus (unfiltered sample) 0.1 mg/L
14 or less; the monthly geometric mean of *E. coli* bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or
15 less.

16 [20.6.4.109 NMAC - Rp 20 NMAC 6.1.2107, 10-12-00; A, 05-23-05; A, 12-01-10; A, 07-10-12]

17 [NOTE: The standards for Bluewater lake are in 20.6.4.135 NMAC, effective 07-10-12]

18
19 **20.6.4.110 RIO GRANDE BASIN: The main stem of the Rio Grande from Angostura diversion works**
20 **upstream to Cochiti dam, excluding the reaches on San Felipe, Kewa and Cochiti pueblos.**

21 **A. Designated uses:** irrigation, livestock watering, wildlife habitat, primary contact, coldwater
22 aquatic life and warmwater aquatic life.

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

26 [20.6.4.110 NMAC - Rp 20 NMAC 6.1.2108, 10-12-2000; A, 05-23-2005; A, 12-01-2010; A, 03-02-2017]

27
28 **20.6.4.111 RIO GRANDE BASIN: - Perennial reaches of Las Huertas creek from the San Felipe pueblo**
29 **boundary to the headwaters.**

30 **A. Designated uses:** high quality coldwater aquatic life, irrigation, livestock watering, wildlife
31 habitat and primary contact.

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

34 [20.6.4.111 NMAC - Rp 20 NMAC 6.1.2108.5, 10-12-00; A, 7-25-01; A, 05-23-05; A-12-01-10]

35 [NOTE: The segment covered by this section was divided effective 05-23-05. The standards for the additional
36 segment are under 20.6.4.125 NMAC.]

37
38 **20.6.4.112 [RESERVED]**

39 [20.6.4.112 NMAC - Rp 20 NMAC 6.1.2109, 10-12-00; A, 05-23-05; Repealed, 12-01-10]

40
41 **20.6.4.113 RIO GRANDE BASIN: - The Santa Fe river and perennial reaches of its tributaries from**
42 **the Cochiti pueblo boundary upstream to the outfall of the Santa Fe wastewater treatment facility.**

43 **A. Designated uses:** irrigation, livestock watering, wildlife habitat, primary contact and coolwater
44 aquatic life.

45 **B. Criteria:** The use-specific criteria in 20.6.4.900 NMAC are applicable to the designated uses,
46 except that the following segment-specific criterion applies: temperature 30°C (86°F) or less.

47 [20.6.4.113 NMAC - Rp 20 NMAC 6.1.2110, 10-12-00; A, 10-11-02; A, 05-23-05; A, 12-01-10; A, 02-14-13]

48
49 **20.6.4.114 RIO GRANDE BASIN: - The main stem of the Rio Grande from the Cochiti pueblo**
50 **boundary upstream to Rio Pueblo de Taos excluding waters on San Ildefonso, Santa Clara and Ohkay**
51 **Owingeh pueblos, Embudo creek from its mouth on the Rio Grande upstream to the Picuris Pueblo**
52 **boundary, the Santa Cruz river from the Santa Clara pueblo boundary upstream to the Santa Cruz dam, the**
53 **Rio Tesuque except waters on the Tesuque and Pojoaque pueblos, and the Pojoaque river from the San**
54 **Ildefonso pueblo boundary upstream to the Pojoaque pueblo boundary. Some Rio Grande waters in this**
55 **segment are under the joint jurisdiction of the state and San Ildefonso pueblo.**

1 **A. Designated uses:** irrigation, livestock watering, wildlife habitat, marginal coldwater aquatic life,
2 primary contact and warmwater aquatic life; and public water supply on the main stem Rio Grande.

3 **B. Criteria:**

4 (1) The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
5 designated uses, except that the following segment-specific criteria apply: 6T3 temperature 22°C (71.6°F) and
6 maximum temperature 25°C (78.8°F). In addition, the following criteria based on a 12-month rolling average are
7 applicable to the public water supply use for monitoring and public disclosure purposes only:
8

Radionuclide	pCi/L
Americium-241	1.9
Cesium-137	6.4
Plutonium-238	1.5
Plutonium-239/240	1.5
Strontium-90	3.5
Tritium	4,000

9
10 (2) At mean monthly flows above 100 cfs, the monthly average concentration for: TDS 500
11 mg/L or less, sulfate 150 mg/L or less and chloride 25 mg/L or less.

12 [20.6.4.114 NMAC - Rp 20 NMAC 6.1.2111, 10-12-00; A, 05-23-05; A, 12-01-10]

13
14 **20.6.4.115 RIO GRANDE BASIN: - The perennial reaches of Rio Vallecitos and its tributaries except**
15 **Hopewell lake, and perennial reaches of Rio del Oso and perennial reaches of El Rito creek above the town of**
16 **El Rito.**

17 **A. Designated uses:** domestic water supply, irrigation, high quality coldwater aquatic life, livestock
18 watering, wildlife habitat and primary contact; public water supply on the Rio Vallecitos and El Rito creek.

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

22 [20.6.4.115 NMAC - Rp 20 NMAC 6.1.2112, 10-12-00; A, 05-23-05; A, 12-01-10; A, 07-10-12]

23 [NOTE: The standards for Hopewell lake are in 20.6.4.134 NMAC, effective 07-10-12]

24
25 **20.6.4.116 RIO GRANDE BASIN: The Rio Chama from its mouth on the Rio Grande upstream to**
26 **Abiquiu reservoir, perennial reaches of the Rio Tusas, perennial reaches of the Rio Ojo Caliente, perennial**
27 **reaches of Abiquiu creek and perennial reaches of El Rito creek downstream of the town of El Rito.**

28 **A. Designated uses:** irrigation, livestock watering, wildlife habitat, coldwater aquatic life,
29 warmwater aquatic life and secondary contact.

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

32 [20.6.4.116 NMAC - Rp 20 NMAC 6.1.2113, 10-12-2000; A, 05-23-2005; A, 12-01-2010; A, 03-02-2017]

33
34 **20.6.4.117 RIO GRANDE BASIN: - Abiquiu reservoir.**

35 **A. Designated uses:** irrigation storage, livestock watering, wildlife habitat, primary contact,
36 coldwater aquatic life and warmwater aquatic life.

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

39 [20.6.4.117 NMAC - Rp 20 NMAC 6.1.2114, 10-12-00; A, 05-23-05; A, 12-01-10]

40
41 **20.6.4.118 RIO GRANDE BASIN: - The Rio Chama from the headwaters of Abiquiu reservoir**
42 **upstream to El Vado reservoir and perennial reaches of the Rio Gallina and Rio Puerco de Chama north of**
43 **state highway 96. Some Rio Chama waters in this segment are under the joint jurisdiction of the state and**
44 **the Jicarilla Apache tribe.**

45 **A. Designated uses:** irrigation, livestock watering, wildlife habitat, coldwater aquatic life,
46 warmwater aquatic life and primary contact.

47 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
48 designated uses, except that the following segment-specific criterion applies: temperature 26°C (78.8°F) or less.

1 [20.6.4.118 NMAC - Rp 20 NMAC 6.1.2115, 10-12-00; A, 05-23-05; A, 12-01-10]

2
3 **20.6.4.119 RIO GRANDE BASIN: - All perennial reaches of tributaries to the Rio Chama above**
4 **Abiquiu dam, except Canjilon lakes a, c, e and f and the Rio Gallina and Rio Puerco de Chama north of state**
5 **highway 96 and excluding waters on Jicarilla Apache reservation, and the main stem of the Rio Chama from**
6 **the headwaters of El Vado reservoir upstream to the New Mexico-Colorado line. Some Cañones creek and**
7 **Rio Chama waters in this segment are under the joint jurisdiction of the state and the Jicarilla Apache tribe.**

8 **A. Designated uses:** domestic water supply, fish culture, high quality coldwater aquatic life,
9 irrigation, livestock watering, wildlife habitat and primary contact; and public water supply on the Rio Brazos and
10 Rio Chama.

11 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
12 designated uses, except that the following segment-specific criteria apply: specific conductance 500 μ S/cm or less
13 (1,000 μ S or less for Coyote creek); the monthly geometric mean of *E. coli* bacteria 126 cfu/100 mL or less, single
14 sample 235 cfu/100 mL or less.

15 [20.6.4.119 NMAC - Rp 20 NMAC 6.1.2116, 10-12-00; A, 05-23-05; A, 12-01-10; A, 07-10-12]

16 [NOTE: The standards for Canjilon lakes a, c, e and f are in 20.6.4.134 NMAC, effective 07-10-12]

17
18 **20.6.4.120 RIO GRANDE BASIN: - El Vado and Heron reservoirs.**

19 **A. Designated uses:** irrigation storage, livestock watering, wildlife habitat, public water supply,
20 primary contact and coldwater aquatic life.

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

24 [20.6.4.120 NMAC - Rp 20 NMAC 6.1.2117, 10-12-00; A, 05-23-05; A, 12-01-10]

25
26 **20.6.4.121 RIO GRANDE BASIN: - Perennial tributaries to the Rio Grande in Bandelier national**
27 **monument and their headwaters in Sandoval county and all perennial reaches of tributaries to the Rio**
28 **Grande in Santa Fe county unless included in other segments and excluding waters on tribal lands.**

29 **A. Designated uses:** domestic water supply, high quality coldwater aquatic life, irrigation, livestock
30 watering, wildlife habitat and primary contact; and public water supply on Little Tesuque creek, the Rio en Medio,
31 and the Santa Fe river.

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

35 [20.6.4.121 NMAC - Rp 20 NMAC 6.1.2118, 10-12-00; A, 05-23-05; A, 12-01-10; A, 02-14-13]

36 [NOTE: The segment covered by this section was divided effective 05-23-05. The standards for the additional
37 segments are under 20.6.4.126, 20.6.4.127 and 20.6.4.128 NMAC.]

38
39 **20.6.4.122 RIO GRANDE BASIN: - The main stem of the Rio Grande from Rio Pueblo de Taos**
40 **upstream to the New Mexico-Colorado line, the Red river from its mouth on the Rio Grande upstream to the**
41 **mouth of Placer creek, and the Rio Pueblo de Taos from its mouth on the Rio Grande upstream to the mouth**
42 **of the Rio Grande del Rancho. Some Rio Grande and Rio Pueblo de Taos waters in this segment are under**
43 **the joint jurisdiction of the state and Taos pueblo.**

44 **A. Designated uses:** coldwater aquatic life, fish culture, irrigation, livestock watering, wildlife
45 habitat and primary contact.

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

49 [20.6.4.122 NMAC - Rp 20 NMAC 6.1.2119, 10-12-00; A, 05-23-05; A, 12-01-10]

50
51 **20.6.4.123 RIO GRANDE BASIN: - Perennial reaches of the Red river upstream of the mouth of Placer**
52 **creek, all perennial reaches of tributaries to the Red river, and all other perennial reaches of tributaries to**
53 **the Rio Grande in Taos and Rio Arriba counties unless included in other segments and excluding waters on**
54 **Santa Clara, Ohkay Owingeh, Picuris and Taos pueblos.**

1 **A. Designated uses:** domestic water supply, high quality coldwater aquatic life, irrigation, livestock
2 watering, wildlife habitat and primary contact; and public water supply on the Rio Pueblo and Rio Fernando de
3 Taos.

4 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
5 designated uses, except that the following segment-specific criteria apply: specific conductance 400 μ S/cm or less
6 (500 μ S/cm or less for the Rio Fernando de Taos); the monthly geometric mean of E. coli bacteria 126 cfu/100 mL
7 or less, single sample 235 cfu/100 mL or less; and phosphorus (unfiltered sample) less than 0.1 mg/L for the Red
8 river.

9 [20.6.4.123 NMAC - Rp 20 NMAC 6.1.2120, 10-12-00; A, 05-23-05; A, 12-01-10]

10 [NOTE: The segment covered by this section was divided effective 05-23-05. The standards for the additional
11 segment are under 20.6.4.129 NMAC.]

12
13 **20.6.4.124 RIO GRANDE BASIN: Perennial reaches of Sulphur creek from its confluence with**
14 **Redondo creek upstream to its headwaters.**

15 **A. Designated uses:** limited aquatic life, wildlife habitat, livestock watering and secondary contact.

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

19 [20.6.4.124 NMAC - N, 05-23-2005; A, 12-01-2010; A, 03-02-2017]

20
21 **20.6.4.125 RIO GRANDE BASIN: - Perennial reaches of San Pedro creek from the San Felipe pueblo**
22 **boundary to the headwaters.**

23 **A. Designated uses:** coldwater aquatic life, irrigation, livestock watering, wildlife habitat and
24 primary contact.

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

27 [20.6.4.125 NMAC - N, 05-23-05; A, 12-01-10]

28
29 **20.6.4.126 RIO GRANDE BASIN: - Perennial portions of Cañon de Valle from Los Alamos national**
30 **laboratory (LANL) stream gage E256 upstream to Burning Ground spring, Sandia canyon from Sigma**
31 **canyon upstream to LANL NPDES outfall 001, Pajarito canyon from Arroyo de La Delfe upstream into**
32 **Starmers gulch and Starmers spring and Water canyon from Area-A canyon upstream to State Route 501.**

33 **A. Designated uses:** coldwater aquatic life, livestock watering, wildlife habitat and secondary
34 contact.

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

37 [20.6.4.126 NMAC - N, 05-23-05; A, 12-01-10]

38
39 **20.6.4.127 RIO GRANDE BASIN: - Perennial portions of Los Alamos canyon upstream from Los**
40 **Alamos reservoir and Los Alamos reservoir.**

41 **A. Designated uses:** coldwater aquatic life, livestock watering, wildlife habitat, irrigation and
42 primary contact.

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

45 [20.6.4.127 NMAC - N, 05-23-05; A, 12-01-10]

46
47 **20.6.4.128 RIO GRANDE BASIN: - Ephemeral and intermittent portions of watercourses within lands**
48 **managed by U.S. department of energy (DOE) within LANL, including but not limited to: Mortandad**
49 **canyon, Cañada del Buey, Ancho canyon, Chaquehui canyon, Indio canyon, Fence canyon, Potrillo canyon**
50 **and portions of Cañon de Valle, Los Alamos canyon, Sandia canyon, Pajarito canyon and Water canyon not**
51 **specifically identified in 20.6.4.126 NMAC. (Surface waters within lands scheduled for transfer from DOE to**
52 **tribal, state or local authorities are specifically excluded.)**

53 **A. Designated uses:** livestock watering, wildlife habitat, limited aquatic life and secondary contact.

54 **B. Criteria:** the use-specific criteria in 20.6.4.900 NMAC are applicable to the designated uses,
55 except that the following segment-specific criteria apply: the acute total ammonia criteria set forth in Subsection K
56 of 20.6.4.900 NMAC (salmonids absent).

1 [20.6.4.128 NMAC - N, 05-23-05; A, 12-01-10]

2
3 **20.6.4.129 RIO GRANDE BASIN: - Perennial reaches of the Rio Hondo.**

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

6 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
7 designated uses, except that the following segment-specific criteria apply: specific conductance 400 μ S/cm or less
8 and phosphorus (unfiltered sample) less than 0.1 mg/L.

9 [20.6.4.129 NMAC - N, 05-23-05; A, 12-01-10]

10
11 **20.6.4.130 RIO GRANDE BASIN: - The Rio Puerco from the Rio Grande upstream to Arroyo**
12 **Chijuilla, excluding the reaches on Isleta, Laguna and Cañoncito Navajo pueblos. Some waters in this**
13 **segment are under the joint jurisdiction of the state and Isleta, Laguna or Cañoncito Navajo pueblos.**

14 **A. Designated uses:** irrigation, warmwater aquatic life, livestock watering, wildlife habitat and
15 primary contact.

16 **B. Criteria:**

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

19 (2) At mean monthly flows above 100 cfs, the monthly average concentration for: TDS 1,500
20 mg/L or less, sulfate 500 mg/L or less and chloride 250 mg/L or less.

21 [20.6.4.130 NMAC - N, 12-01-10]

22
23 **20.6.4.131 RIO GRANDE BASIN: - The Rio Puerco from the confluence of Arroyo Chijuilla upstream**
24 **to the northern boundary of Cuba.**

25 **A. Designated uses:** warmwater aquatic life, irrigation, livestock watering, wildlife habitat and
26 primary contact.

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

29 [20.6.4.131 NMAC - N, 12-01-10]

30
31 **20.6.4.132 RIO GRANDE BASIN: - Rio Grande (Klauer) spring**

32 **A. Designated uses:** domestic water supply, wildlife habitat, livestock watering, coldwater aquatic
33 life use and primary contact.

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

36 [20.6.4.132 NMAC - N, 12-01-10]

37
38 **20.6.4.133 RIO GRANDE BASIN: - Bull Creek lake, Cow lake, Elk lake, Goose lake, Heart lake,**
39 **Hidden lake (Lake Hazel), Horseshoe lake, Horseshoe (Alamitos) lake, Jose Vigil lake, Lost lake, Middle Fork**
40 **lake, Nambe lake, Nat II lake, Nat IV lake, No Fish lake, Pioneer lake, San Leonardo lake, Santa Fe lake,**
41 **Serpent lake, South Fork lake, Trampas lakes (east and west) and Williams lake.**

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

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

47 [20.6.4.133 NMAC - N, 07-10-12]

48
49 **20.6.4.134 RIO GRANDE BASIN: - Cabresto lake, Canjilon lakes a, c, e and f, Fawn lakes (east and**
50 **west), Hopewell lake and San Gregorio lake.**

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

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

56 [20.6.4.134 NMAC - N, 07-10-12]

1
2 **20.6.4.135 RIO GRANDE BASIN: - Bluewater lake.**

3 **A. Designated uses:** coldwater aquatic life, irrigation, domestic water supply, primary contact,
4 livestock watering and wildlife habitat.

5 **B. Criteria:** The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
6 designated uses except that the following segment-specific criteria apply: phosphorus (unfiltered sample) 0.1 mg/L
7 or less; the monthly geometric mean of *E. coli* bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or
8 less.

9 [20.6.4.135 NMAC - N, 07-10-12]

10
11 **20.6.4.136 RIO GRANDE BASIN: - The Santa Fe river from the outfall of the Santa Fe wastewater
12 treatment facility to Guadalupe street.**

13 **A. Designated uses:** limited aquatic life, wildlife habitat, primary contact, livestock watering, and
14 irrigation.

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

17 [20.6.4.136 NMAC - N, 02-14-13]

18
19 **20.6.4.137 RIO GRANDE BASIN: - The Santa Fe river from Guadalupe street to Nichols reservoir.**

20 **A. Designated uses:** coolwater aquatic life, wildlife habitat, primary contact, livestock watering, and
21 irrigation.

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

24 [20.6.4.137 NMAC - N, 02-14-13]

25
26 **20.6.4.138 RIO GRANDE BASIN: - Nichols and McClure reservoirs.**

27 **A. Designated uses:** high quality coldwater aquatic life, wildlife habitat, primary contact, public
28 water supply and irrigation.

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

32 [20.6.4.138 NMAC - N, 02-14-13]

33
34 **20.6.4.139 RIO GRANDE BASIN: - Perennial reaches of Galisteo creek and perennial reaches of its
35 tributaries from Kewa pueblo upstream to 2.2 miles upstream of Lamy.**

36 **A. Designated uses:** coolwater aquatic life, primary contact, irrigation, livestock watering, domestic
37 water supply and wildlife habitat; and public water supply on Cerrillos reservoir.

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

41 [20.6.4.139 NMAC - N, 02-14-13]

42
43 **20.6.4.140 - 20.6.4.200 [RESERVED]**

44
45 **20.6.4.201 PECOS RIVER BASIN: - The main stem of the Pecos river from the New Mexico-Texas line
46 upstream to the mouth of the Black river (near Loving).**

47 **A. Designated uses:** irrigation, livestock watering, wildlife habitat, primary contact and warmwater
48 aquatic life.

49 **B. Criteria:**
50 (1) The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
51 designated uses, except that the following segment-specific criterion applies: dissolved boron for irrigation use
52 2,000 μ g/L or less.

53 (2) At all flows above 50 cfs: TDS 20,000 mg/L or less, sulfate 3,000 mg/L or less and
54 chloride 10,000 mg/L or less.

55 [20.6.4.201 NMAC - Rp 20 NMAC 6.1.2201, 10-12-00; A, 05-23-05; A, 12-01-10]

1 **20.6.4.202 PECOS RIVER BASIN: - The main stem of the Pecos river from the mouth of the Black**
2 **river upstream to lower Tansil dam, including perennial reaches of the Black river, the Delaware river and**
3 **Blue spring.**

4 **A. Designated uses:** industrial water supply, irrigation, livestock watering, wildlife habitat, primary
5 contact and warmwater aquatic life.

6 **B. Criteria:**

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

9 (2) At all flows above 50 cfs: TDS 8,500 mg/L or less, sulfate 2,500 mg/L or less and chloride
10 3,500 mg/L or less.

11 **C. Remarks:** diversion for irrigation frequently limits summer flow in this reach of the main stem
12 Pecos river to that contributed by springs along the watercourse.

13 [20.6.4.202 NMAC - Rp 20 NMAC 6.1.2202, 10-12-00; A, 05-23-05; A, 12-01-10]

14 [NOTE: The segment covered by this section was divided effective 05-23-05. The standards for Lower Tansil Lake
15 and Lake Carlsbad are under 20.6.4.218 NMAC.]

16
17 **20.6.4.203 PECOS RIVER BASIN: - The main stem of the Pecos river from the headwaters of Lake**
18 **Carlsbad upstream to Avalon dam.**

19 **A. Designated uses:** industrial water supply, livestock watering, wildlife habitat, primary contact
20 and warmwater aquatic life.

21 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
22 designated uses, except that the following segment-specific criteria apply: temperature 34°C (93.2°F) or less; the
23 monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.

24 [20.6.4.203 NMAC - Rp 20 NMAC 6.1.2203, 10-12-00; A, 05-23-05; A, 12-01-10]

25 [NOTE: The segment covered by this section was divided effective 05-23-05. The standards for Lower Tansil Lake
26 and Lake Carlsbad are under 20.6.4.218 and for Avalon Reservoir are under 20.6.4.219 NMAC.]

27
28 **20.6.4.204 PECOS RIVER BASIN: - The main stem of the Pecos river from the headwaters of Avalon**
29 **reservoir upstream to Brantley dam.**

30 **A. Designated uses:** irrigation, livestock watering, wildlife habitat, secondary contact and
31 warmwater aquatic life.

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

34 [20.6.4.204 NMAC - Rp 20 NMAC 6.1.2204, 10-12-00; A, 05-23-05; A, 12-01-10]

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

37
38 **20.6.4.205 PECOS RIVER BASIN: - Brantley reservoir.**

39 **A. Designated uses:** irrigation storage, livestock watering, wildlife habitat, primary contact and
40 warmwater aquatic life.

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

43 [20.6.4.205 NMAC - Rp 20 NMAC 6.1.2205, 10-12-00; A, 05-23-05; A, 12-01-10]

44
45 **20.6.4.206 PECOS RIVER BASIN: The main stem of the Pecos river from the headwaters of Brantley**
46 **reservoir upstream to Salt creek (near Acme), perennial reaches of the Rio Peñasco downstream from state**
47 **highway 24 near Dunken, perennial reaches of the Rio Hondo and its tributaries downstream of Bonney**
48 **canyon and perennial reaches of the Rio Felix.**

49 **A. Designated uses:** irrigation, livestock watering, wildlife habitat, secondary contact and
50 warmwater aquatic life.

51 **B. Criteria:**

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

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

56 [20.6.4.206 NMAC - Rp 20 NMAC 6.1.2206, 10-12-2000; A, 05-23-2005; A, 12-01-2010; A, 03-02-2017]

1
2 **20.6.4.207 PECOS RIVER BASIN: - The main stem of the Pecos river from Salt creek (near Acme)**
3 **upstream to Sumner dam.**

4 **A. Designated uses:** irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat
5 and secondary contact.

6 **B. Criteria:**

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

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

11 [20.6.4.207 NMAC - Rp 20 NMAC 6.1.2207, 10-12-00; A, 05-23-05; A, 12-01-10]
12

13 **20.6.4.208 PECOS RIVER BASIN: - Perennial reaches of the Rio Peñasco and its tributaries above**
14 **state highway 24 near Dunken, perennial reaches of the Rio Bonito downstream from state highway 48 (near**
15 **Angus), the Rio Ruidoso downstream of the U.S. highway 70 bridge near Seeping Springs lakes, perennial**
16 **reaches of the Rio Hondo upstream from Bonney canyon and perennial reaches of Agua Chiquita.**

17 **A. Designated uses:** fish culture, irrigation, livestock watering, wildlife habitat, coldwater aquatic
18 life and primary contact.

19 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
20 designated uses, except that the following segment-specific criteria apply: temperature 30°C (86°F) or less, and
21 phosphorus (unfiltered sample) less than 0.1 mg/L.

22 [20.6.4.208 NMAC - Rp 20 NMAC 6.1.2208, 10-12-00; A, 05-23-05; A, 12-01-10]
23

24 **20.6.4.209 PECOS RIVER BASIN: - Perennial reaches of Eagle creek upstream of Alto dam to the**
25 **Mescalero Apache boundary, perennial reaches of the Rio Bonito and its tributaries upstream of state**
26 **highway 48 (near Angus) excluding Bonito lake, and perennial reaches of the Rio Ruidoso and its tributaries**
27 **upstream of the U.S. highway 70 bridge near Seeping Springs lakes, above and below the Mescalero Apache**
28 **boundary.**

29 **A. Designated uses:** domestic water supply, high quality coldwater aquatic life, irrigation, livestock
30 watering, wildlife habitat, public water supply and primary contact.

31 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
32 designated uses, except that the following segment-specific criteria apply: specific conductance 600 µS/cm or less in
33 Eagle creek, 1,100 µS/cm or less in Bonito creek and 1,500 µS/cm or less in the Rio Ruidoso; phosphorus (unfiltered
34 sample) less than 0.1 mg/L; the monthly geometric mean of *E. coli* bacteria 126 cfu/100 mL or less, single sample
35 235 cfu/100 mL or less.

36 [20.6.4.209 NMAC - Rp 20 NMAC 6.1.2209, 10-12-00; A, 05-23-05; A, 12-01-10; A, 07-10-12]

37 [NOTE: The standards for Bonito lake are in 20.6.4.223 NMAC, effective 07-10-12]
38

39 **20.6.4.210 PECOS RIVER BASIN: - Sumner reservoir.**

40 **A. Designated uses:** irrigation storage, livestock watering, wildlife habitat, primary contact and
41 warmwater aquatic life.

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

45 [20.6.4.210 NMAC - Rp 20 NMAC 6.1.2210, 10-12-00; A, 05-23-05; A, 12-01-10]
46

47 **20.6.4.211 PECOS RIVER BASIN: - The main stem of the Pecos river from the headwaters of Sumner**
48 **reservoir upstream to Tecolote creek excluding Santa Rosa reservoir.**

49 **A. Designated uses:** fish culture, irrigation, marginal warmwater aquatic life, livestock watering,
50 wildlife habitat and primary contact.

51 **B. Criteria:**

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

54 (2) At all flows above 50 cfs: TDS 3,000 mg/L or less, sulfate 2,000 mg/L or less and
55 chloride 400 mg/L or less.

56 [20.6.4.211 NMAC - Rp 20 NMAC 6.1.2211, 10-12-00; A, 05-23-05; A, 12-01-10; A, 07-10-12]

1 [NOTE: The standards for Santa Rosa reservoir are in 20.6.4.225 NMAC, effective 07-10-12]

2
3 **20.6.4.212 PECOS RIVER BASIN: - Perennial tributaries to the main stem of the Pecos river from the**
4 **headwaters of Sumner reservoir upstream to Santa Rosa dam.**

5 **A. Designated uses:** irrigation, coldwater aquatic life, livestock watering, wildlife habitat and
6 primary contact.

7 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
8 designated uses, except that the following segment-specific criterion applies: temperature 25°C (77°F) or less.
9 [20.6.4.212 NMAC - Rp 20 NMAC 6.1.2211.1, 10-12-00; A, 05-23-05; A, 12-01-10]

10
11 **20.6.4.213 PECOS RIVER BASIN: - McAllister lake.**

12 **A. Designated uses:** coldwater aquatic life, secondary contact, livestock watering and wildlife
13 habitat.

14 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
15 designated uses, except that the following segment-specific criterion applies: temperature 25°C (77°F) or less.
16 [20.6.4.213 NMAC - Rp 20 NMAC 6.1.2211.3, 10-12-00; A, 05-23-05; A, 12-01-10]

17
18 **20.6.4.214 PECOS RIVER BASIN: - Storrie lake.**

19 **A. Designated uses:** coldwater aquatic life, warmwater aquatic life, primary contact, livestock
20 watering, wildlife habitat, public water supply and irrigation storage.

21 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
22 designated uses, except that the following segment-specific criteria apply: the monthly geometric mean of E. coli
23 bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.
24 [20.6.4.214 NMAC - Rp 20 NMAC 6.1.2211.5, 10-12-00; A, 05-23-05; A, 12-01-10]

25
26 **20.6.4.215 PECOS RIVER BASIN: - Perennial reaches of the Gallinas river and all its tributaries**
27 **[above] upstream of the diversion for the Las Vegas municipal reservoir[and], perennial reaches of Tecolote**
28 **creek upstream of Blue creek, and[its]all perennial tributaries of Tecolote creek.**

29 **A. Designated uses:** domestic water supply, high quality coldwater aquatic life, irrigation, livestock
30 watering, wildlife habitat, industrial water supply and primary contact; and public water supply on the Gallinas river.

31 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
32 designated uses, except that the following segment-specific criteria apply: specific conductance 300 µS/cm or less
33 (450 µS/cm or less in Wright Canyon creek); the monthly geometric mean of E. coli bacteria 126 cfu/100 mL or
34 less, single sample 235 cfu/100 mL or less.

35 [20.6.4.215 NMAC - Rp 20 NMAC 6.1.2212, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XXXX]

36 **[NOTE: This segment was divided effective XX-XX-XX. The standards for Tecolote creek from I-25 to Blue creek**
37 **are under 20.6.4.230 NMAC.]**

38
39 **20.6.4.216 PECOS RIVER BASIN: - The main stem of the Pecos river from Tecolote creek upstream to**
40 **Cañon de Manzanita.**

41 **A. Designated uses:** irrigation, livestock watering, wildlife habitat, marginal coldwater aquatic life
42 and primary contact.

43 **B. Criteria:**
44 (1) The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
45 designated uses, except that the following segment-specific criterion applies: temperature 30°C (86°F) or less.
46 (2) At all flows above 10 cfs: TDS 250 mg/L or less, sulfate 25 mg/L or less and chloride 5
47 mg/L or less.

48 [20.6.4.216 NMAC - Rp 20 NMAC 6.1.2213, 10-12-00; A, 05-23-05; A, 12-01-10]

49
50 **20.6.4.217 PECOS RIVER BASIN: - Perennial reaches of Cow creek and all perennial reaches of its**
51 **tributaries and the main stem of the Pecos river from Cañon de Manzanita upstream to its headwaters,**
52 **including perennial reaches of all tributaries thereto except lakes identified in 20.6.4.222 NMAC.**

53 **A. Designated uses:** domestic water supply, fish culture, high quality coldwater aquatic life,
54 irrigation, livestock watering, wildlife habitat and primary contact; and public water supply on the main stem of the
55 Pecos river.

1 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
2 designated uses, except that the following segment-specific criteria apply: specific conductance 300 μ S/cm or less;
3 the monthly geometric mean of *E. coli* bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.
4 [20.6.4.217 NMAC - Rp 20 NMAC 6.1.2214, 10-12-00; A, 05-23-05; A, 12-01-10; A, 07-10-12]
5 [NOTE: The segment covered by this section was divided effective 05-23-05. The standards for the additional
6 segments are under 20.6.4.220 and 20.6.4.221 NMAC.]
7

8 **20.6.4.218 PECOS RIVER BASIN: - Lower Tansil lake and Lake Carlsbad.**

9 **A. Designated uses:** industrial water supply, livestock watering, wildlife habitat, primary contact
10 and warmwater aquatic life.

11 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
12 designated uses, except that the following segment-specific criterion applies: temperature 34°C (93.2°F) or less.
13 [20.6.4.218 NMAC - N, 05-23-05; A, 12-01-10]
14

15 **20.6.4.219 PECOS RIVER BASIN: - Avalon reservoir.**

16 **A. Designated uses:** irrigation storage, livestock watering, wildlife habitat, secondary contact and
17 warmwater aquatic life.

18 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
19 designated uses.
20 [20.6.4.219 NMAC - N, 05-23-05; A, 12-01-10]
21

22 **20.6.4.220 PECOS RIVER BASIN: - Perennial reaches of the Gallinas river and its tributaries from its
23 mouth upstream to the diversion for the Las Vegas municipal reservoir, except Pecos Arroyo.**

24 **A. Designated uses:** irrigation, livestock watering, wildlife habitat, marginal coldwater aquatic life
25 and primary contact.

26 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
27 designated uses, except that the following segment-specific criterion applies: temperature 30°C (86°F) or less.
28 [20.6.4.220 NMAC - N, 05-23-05; A, 12-01-10]
29

30 **20.6.4.221 PECOS RIVER BASIN: - Pecos Arroyo.**

31 **A. Designated uses:** livestock watering, wildlife habitat, warmwater aquatic life and primary
32 contact.

33 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
34 designated uses, except that the following segment-specific criteria apply: the monthly geometric mean of *E. coli*
35 bacteria 206 cfu/100 mL, single sample 940 cfu/100 mL.
36 [20.6.4.221 NMAC - N, 05-23-05; A, 12-01-10]
37

38 **20.6.4.222 PECOS RIVER BASIN: - Johnson lake, Katherine lake, Lost Bear lake, Pecos Baldy lake,
39 Spirit lake, Stewart lake and Truchas lakes (north and south).**

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

42 **B. Criteria:** The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
43 designated uses, except that the following segment-specific criteria apply: specific conductance 300 μ S/cm or less;
44 the monthly geometric mean of *E. coli* bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.
45 [20.6.4.222 NMAC - N, 07-10-12]
46

47 **20.6.4.223 PECOS RIVER BASIN: - Bonito lake.**

48 **A. Designated uses:** high quality coldwater aquatic life, irrigation, domestic water supply, primary
49 contact, livestock watering, wildlife habitat and public water supply.

50 **B. Criteria:** The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
51 designated uses except that the following segment-specific criteria apply: specific conductance 1100 μ S/cm or less;
52 phosphorus (unfiltered sample) less than 0.1 mg/L; the monthly geometric mean of *E. coli* bacteria 126 cfu/100 mL
53 or less, single sample 235 cfu/100 mL or less.
54 [20.6.4.223 NMAC - N, 07-10-12]
55

56 **20.6.4.224 PECOS RIVER BASIN: - Monastery lake.**

- 1 A. **Designated uses:** coolwater aquatic life, primary contact, livestock watering and wildlife habitat.
2 B. **Criteria:** The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
3 designated uses, except that the following segment-specific criteria apply: the monthly geometric mean of *E. coli*
4 bacteria 206 cfu/100 mL or less, single sample 940 cfu/100 mL or less.
5 [20.6.4.224 NMAC - N, 07-10-12]
6
- 7 **20.6.4.225 PECOS RIVER BASIN: - Santa Rosa reservoir.**
8 A. **Designated uses:** coolwater aquatic life, irrigation, primary contact, livestock watering and
9 wildlife habitat.
10 B. **Criteria:** The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
11 designated uses.
12 [20.6.4.225 NMAC - N, 07-10-12]
13
- 14 **20.6.4.226 PECOS RIVER BASIN: - Perch lake.**
15 A. **Designated uses:** coolwater aquatic life, primary contact, livestock watering and wildlife habitat.
16 B. **Criteria:** The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
17 designated uses except that the following segment-specific criteria apply: the monthly geometric mean of *E. coli*
18 bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.
19 [20.6.4.226 NMAC - N, 07-10-12]
20
- 21 **20.6.4.227 PECOS RIVER BASIN: - Lea lake.**
22 A. **Designated uses:** warmwater aquatic life, primary contact and wildlife habitat.
23 B. **Criteria:** The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
24 designated uses except that the following segment-specific criteria apply: the monthly geometric mean of *E. coli*
25 bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.
26 [20.6.4.227 NMAC - N, 07-10-12]
27
- 28 **20.6.4.228 PECOS RIVER BASIN: - Cottonwood lake and Devil's Inkwell.**
29 A. **Designated uses:** coolwater aquatic life, primary contact and wildlife habitat.
30 B. **Criteria:** The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
31 designated uses, except that the following segment-specific criteria apply: the monthly geometric mean of *E. coli*
32 bacteria 206 cfu/100 mL or less, single sample 940 cfu/100 mL or less.
33 [20.6.4.228 NMAC - N, 07-10-12]
34
- 35 **20.6.4.229 PECOS RIVER BASIN: - Mirror lake.**
36 A. **Designated uses:** warmwater aquatic life, primary contact and wildlife habitat.
37 B. **Criteria:** The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
38 designated uses, except that the following segment-specific criteria apply: the monthly geometric mean of *E. coli*
39 bacteria 206 cfu/100 mL or less, single sample 940 cfu/100 mL or less.
40 [20.6.4.229 NMAC - N, 07-10-12]
41
- 42 **20.6.4.230 PECOS RIVER BASIN: - Perennial reaches of Tecolote creek from I-25 to Blue creek.**
43 A. **Designated uses:** domestic water supply, coolwater aquatic life, irrigation, livestock watering,
44 **wildlife habitat, and primary contact.**
45 B. **Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
46 **designated uses, except that the following segment-specific criteria apply: the monthly geometric mean of *E. coli***
47 **bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.**
48 [20.6.4.230 NMAC - N, XX-XX-XXXX]
49
- 50 **20.6.4.231[0] - 20.6.4.300 [RESERVED]**
51
- 52 **20.6.4.301 CANADIAN RIVER BASIN: - The main stem of the Canadian river from the New Mexico-**
53 **Texas line upstream to Ute dam, and any flow that enters the main stem from Revuelto creek.**
54 A. **Designated uses:** irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat
55 and primary contact.
56 B. **Criteria:**

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

3 (2) TDS 6,500 mg/L or less at flows above 25 cfs.
4 [20.6.4.301 NMAC - Rp 20 NMAC 6.1.2301, 10-12-00; A, 05-23-05; A, 12-01-10]
5

6 **20.6.4.302 CANADIAN RIVER BASIN: - Ute reservoir.**

7 **A. Designated uses:** livestock watering, wildlife habitat, public water supply, industrial water
8 supply, primary contact and warmwater aquatic life.

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

12 [20.6.4.302 NMAC - Rp 20 NMAC 6.1.2302, 10-12-00; A, 05-23-05; A, 12-01-10]
13

14 **20.6.4.303 CANADIAN RIVER BASIN: - The main stem of the Canadian river from the headwaters of**
15 **Ute reservoir upstream to Conchas dam, the perennial reaches of Pajarito and Ute creeks and their perennial**
16 **tributaries.**

17 **A. Designated uses:** irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat
18 and primary contact.

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

21 [20.6.4.303 NMAC - Rp 20 NMAC 6.1.2303, 10-12-00; A, 05-23-05; A, 12-01-10]
22

23 **20.6.4.304 CANADIAN RIVER BASIN: - Conchas reservoir.**

24 **A. Designated uses:** irrigation storage, livestock watering, wildlife habitat, public water supply,
25 primary contact and warmwater aquatic life.

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

29 [20.6.4.304 NMAC - Rp 20 NMAC 6.1.2304, 10-12-00; A, 05-23-05; A, 12-01-10]
30

31 **20.6.4.305 CANADIAN RIVER BASIN: The main stem of the Canadian river from the headwaters of**
32 **Conchas reservoir upstream to the New Mexico-Colorado line, perennial reaches of the Conchas river, the**
33 **Mora river downstream from the USGS gaging station near Shoemaker, the Vermejo river downstream from**
34 **Rail canyon and perennial reaches of Raton, Chicorica (except Lake Maloya and Lake Alice) and Uña de**
35 **Gato creeks.**

36 **A. Designated uses:** irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat
37 and primary contact.

38 **B. Criteria:**

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

41 (2) TDS 3,500 mg/L or less at flows above 10 cfs.
42 [20.6.4.305 NMAC - Rp 20 NMAC 6.1.2305, 10-12-00; A, 05-23-05; A, 12-01-10; A, 03-02-17]

43 [NOTE: This segment was divided effective 12-01-10. The standards for Lake Alice and Lake Maloya are under
44 20.6.4.311 and 20.6.4.312 NMAC, respectively.]
45

46 **20.6.4.306 CANADIAN RIVER BASIN: - The Cimarron river downstream from state highway 21 in**
47 **Cimarron to the Canadian river and all perennial reaches of tributaries to the Cimarron river downstream**
48 **from state highway 21 in Cimarron.**

49 **A. Designated uses:** irrigation, warmwater aquatic life, livestock watering, wildlife habitat and
50 primary contact; and public water supply on Cimarroncito creek.

51 **B. Criteria:**

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

54 (2) TDS 3,500 mg/L or less at flows above 10 cfs.
55 [20.6.4.306 NMAC - Rp 20 NMAC 6.1.2305.1, 10-12-00; A, 7-19-01; A, 05-23-05; A, 12-01-10]
56

1 20.6.4.307 CANADIAN RIVER BASIN: - Perennial reaches of the Mora river from the USGS gaging
2 station near Shoemaker upstream to the state highway 434 bridge in Mora, all perennial reaches of
3 tributaries to the Mora river downstream from the USGS gaging station at La Cueva in San Miguel and
4 Mora counties except lakes identified in 20.6.4.313 NMAC, perennial reaches of Ocate creek and its
5 tributaries downstream of Ocate, and perennial reaches of Rayado creek downstream of Miami lake
6 diversion in Colfax county.

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

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

11 [20.6.4.307 NMAC - Rp 20 NMAC 6.1.2305.3, 10-12-00; A, 05-23-05; A, 12-01-10; A, 07-10-12]

12
13 20.6.4.308 CANADIAN RIVER BASIN: - Charette lakes.

14 A. Designated uses: coldwater aquatic life, warmwater aquatic life, secondary contact, livestock
15 watering and wildlife habitat.

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

18 [20.6.4.308 NMAC - Rp 20 NMAC 6.1.2305.5, 10-12-00; A, 05-23-05; A, 12-01-10]

19
20 20.6.4.309 CANADIAN RIVER BASIN: - The Mora river and perennial reaches of its tributaries
21 upstream from the state highway 434 bridge in Mora except lakes identified in 20.6.4.313 NMAC, all
22 perennial reaches of tributaries to the Mora river upstream from the USGS gaging station at La Cueva,
23 perennial reaches of Coyote creek and its tributaries, the Cimarron river and its perennial tributaries above
24 state highway 21 in Cimarron except Eagle Nest lake, all perennial reaches of tributaries to the Cimarron
25 river north and northwest of highway 64 except north and south Shuree ponds, perennial reaches of Rayado
26 creek and its tributaries above Miami lake diversion, Ocate creek and perennial reaches of its tributaries
27 upstream of Ocate, perennial reaches of the Vermejo river upstream from Rail canyon and all other
28 perennial reaches of tributaries to the Canadian river northwest and north of U.S. highway 64 in Colfax
29 county unless included in other segments.

30 A. Designated uses: domestic water supply, irrigation, high quality coldwater aquatic life, livestock
31 watering, wildlife habitat, and primary contact; and public water supply on the Cimarron river upstream from
32 Cimarron and on perennial reaches of Rayado creek and its tributaries.

33 B. Criteria: the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
34 designated uses, except that the following segment-specific criteria apply: specific conductance 500 μ S/cm or less;
35 the monthly geometric mean of *E. coli* bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.

36 [20.6.4.309 NMAC - Rp 20 NMAC 6.1.2306, 10-12-00; A, 7-19-01; A, 05-23-05; A, 12-01-10; A, 07-10-12]

37 [NOTE: The segment covered by this section was divided effective 05-23-05. The standards for the additional
38 segment are under 20.6.4.310 NMAC. The standards for Shuree ponds are in 20.6.4.314 NMAC and the standards
39 for Eagle Nest lake are in 20.6.4.315 NMAC, effective 07-10-12]

40
41 20.6.4.310 CANADIAN RIVER BASIN: - Perennial reaches of Corruppa creek.

42 A. Designated uses: livestock watering, wildlife habitat, irrigation, primary contact and coldwater
43 aquatic life.

44 B. Criteria:

45 (1) The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
46 designated uses, except that the following segment-specific criteria apply: temperature 25°C (77°F) or less; the
47 monthly geometric mean of *E. coli* bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.

48 (2) TDS 1,200 mg/L or less, sulfate 600 mg/L or less, chloride 40 mg/L or less.

49 [20.6.4.310 NMAC - N, 05-23-05; A, 12-01-10]

50
51 20.6.4.311 Lake Alice.

52 A. Designated uses: marginal coldwater aquatic life, irrigation, livestock watering, wildlife habitat,
53 primary contact and public water supply.

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

56 [20.6.4.311 NMAC - N, 12-01-10]

1
2 **20.6.4.312 Lake Maloya.**

3 **A. Designated uses:** coldwater aquatic life, irrigation, livestock watering, wildlife habitat, primary
4 contact and public water supply.

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

7 [20.6.4.312 NMAC - N, 12-01-10]
8

9 **20.6.4.313 CANADIAN RIVER BASIN: - Encantada lake, Maestas lake, Middle Fork lake of Rio de la
10 Casa, North Fork lake of Rio de la Casa and Pacheco lake.**

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

13 **B. Criteria:** The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
14 designated uses, except that the following segment-specific criteria apply: specific conductance 300 $\mu\text{S}/\text{cm}$ or less;
15 the monthly geometric mean of *E. coli* bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.

16 [20.6.4.313 NMAC - N, 07-10-12]
17

18 **20.6.4.314 CANADIAN RIVER BASIN: - Shuree ponds (north and south).**

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

21 **B. Criteria:** The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
22 designated uses except that the following segment-specific criteria apply: specific conductance 500 $\mu\text{S}/\text{cm}$ or less;
23 the monthly geometric mean of *E. coli* bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.

24 [20.6.4.314 NMAC - N, 07-10-12]
25

26 **20.6.4.315 CANADIAN RIVER BASIN: - Eagle Nest lake.**

27 **A. Designated uses:** high quality coldwater aquatic life, irrigation, domestic water supply, primary
28 contact, livestock watering, wildlife habitat and public water supply.

29 **B. Criteria:** The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
30 designated uses except that the following segment-specific criteria apply: specific conductance 500 $\mu\text{S}/\text{cm}$ or less;
31 the monthly geometric mean of *E. coli* bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.

32 [20.6.4.315 NMAC - N, 07-10-12]
33

34 **20.6.4.316 CANADIAN RIVER BASIN: - Clayton lake.**

35 **A. Designated uses:** coolwater aquatic life, primary contact, livestock watering and wildlife habitat.

36 **B. Criteria:** The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
37 designated uses, except that the following segment-specific criteria apply: the monthly geometric mean of *E. coli*
38 bacteria 206 cfu/100 mL or less, single sample 940 cfu/100 mL or less.

39 [20.6.4.316 NMAC - N, 07-10-12]
40

41 **20.6.4.317 CANADIAN RIVER BASIN: Springer lake.**

42 **A. Designated uses:** coolwater aquatic life, irrigation, primary contact, livestock watering, wildlife
43 habitat, and public water supply.

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

46 [20.6.4.317 NMAC - N, 07-10-2012; A, 03-02-2017]
47

48 **20.6.4.318 - 20.6.4.400 [RESERVED]**
49

50 **20.6.4.401 SAN JUAN RIVER BASIN: - The main stem of the San Juan river from the Navajo Nation
51 boundary at the Hogback upstream to its confluence with the Animas river. Some waters in this segment are
52 under the joint jurisdiction of the state and the Navajo Nation.**

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

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

1 [20.6.4.401 NMAC - Rp 20 NMAC 6.1.2401, 10-12-00; A, 05-23-05; A, 12-01-10]

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

4
5 **20.6.4.402 SAN JUAN RIVER BASIN: - La Plata river from its confluence with the San Juan river
6 upstream to the New Mexico-Colorado line.**

7 **A. Designated uses:** irrigation, marginal warmwater aquatic life, marginal coldwater aquatic life,
8 livestock watering, wildlife habitat and primary contact.

9 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
10 designated uses, except that the following segment-specific criterion applies: temperature 32.2°C (90°F) or less.
11 [20.6.4.402 NMAC - Rp 20 NMAC 6.1.2402, 10-12-00; A, 05-23-05; A, 12-01-10]

12
13 **20.6.4.403 SAN JUAN RIVER BASIN: The Animas river from its confluence with the San Juan river
14 upstream to Estes arroyo.**

15 **A. Designated uses:** Public water supply, industrial water supply, irrigation, livestock watering,
16 wildlife habitat, coolwater aquatic life, and primary contact.

17 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
18 designated uses, except that the following segment-specific criterion applies: temperature 29°C (84.2°F) or less.
19 [20.6.4.403 NMAC - Rp 20 NMAC 6.1.2403, 10-12-2000; A, 05-23-2005; A, 12-01-2010; A, 03-02-2017]

20
21 **20.6.4.404 SAN JUAN RIVER BASIN: The Animas river from Estes arroyo upstream to the Southern
22 Ute Indian tribal boundary.**

23 **A. Designated uses:** Coolwater aquatic life, irrigation, livestock watering, wildlife habitat, public
24 water supply, industrial water supply and primary contact.

25 **B. Criteria:** The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
26 designated uses, except that the following segment-specific criterion applies: phosphorus (unfiltered sample) 0.1
27 mg/L or less.

28 [20.6.4.404 NMAC - Rp 20 NMAC 6.1.2404, 10-12-2000; A, 05-23-2005; A, 12-01-2010; A, 03-02-2017]

29
30 **20.6.4.405 SAN JUAN RIVER BASIN: - The main stem of the San Juan river from Canyon Largo
31 upstream to the Navajo dam.**

32 **A. Designated uses:** high quality coldwater aquatic life, irrigation, livestock watering, wildlife
33 habitat, public water supply, industrial water supply and primary contact.

34 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
35 designated uses, except that the following segment-specific criteria apply: specific conductance 400 µS/cm or less;
36 the monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.

37 [20.6.4.405 NMAC - Rp 20 NMAC 6.1.2405, 10-12-00; A, 05-23-05; A, 12-01-10]

38
39 **20.6.4.406 SAN JUAN RIVER BASIN: - Navajo reservoir in New Mexico.**

40 **A. Designated uses:** coldwater aquatic life, warmwater aquatic life, irrigation storage, livestock
41 watering, wildlife habitat, public water supply, industrial water supply and primary contact.

42 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
43 designated uses, except that the following segment-specific criteria apply: phosphorus (unfiltered sample) 0.1 mg/L
44 or less; the monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or
45 less.

46 [20.6.4.406 NMAC - Rp 20 NMAC 6.1.2406, 10-12-00; A, 05-23-05; A, 12-01-10]

47
48 **20.6.4.407 SAN JUAN RIVER BASIN: - Perennial reaches of the Navajo river from the Jicarilla
49 Apache reservation boundary to the Colorado border and perennial reaches of Los Pinos river in New
50 Mexico.**

51 **A. Designated uses:** coldwater aquatic life, irrigation, livestock watering, public water supply,
52 wildlife habitat and primary contact.

53 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
54 designated uses, except that the following segment-specific criteria apply: phosphorus (unfiltered sample) 0.1 mg/L
55 or less; the monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or
56 less.

1 [20.6.4.407 NMAC - Rp 20 NMAC 6.1.2407, 10-12-00; A, 05-23-05; A, 12-01-10]

2
3 **20.6.4.408 SAN JUAN RIVER BASIN: - The main stem of the San Juan river from its confluence with**
4 **the Animas river upstream to its confluence with Canyon Largo.**

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

7 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
8 designated uses, except that the following segment-specific criterion applies: temperature 32.2°C (90°F) or less.
9 [20.6.4.408 NMAC - N, 05-23-05; A, 12-01-10]

10
11 **20.6.4.409 SAN JUAN RIVER BASIN: - Lake Farmington.**

12 **A. Designated uses:** public water supply, wildlife habitat, livestock watering, primary contact,
13 coldwater aquatic life and warmwater aquatic life.

14 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
15 designated uses, except that the following segment-specific criterion applies: temperature 25°C (77°F) or less.
16 [20.6.4.409 NMAC - N, 12-01-10]

17
18 **20.6.4.410 SAN JUAN RIVER BASIN: - Jackson lake.**

19 **A. Designated uses:** coolwater aquatic life, irrigation, primary contact, livestock watering and
20 wildlife habitat.

21 **B. Criteria:** The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
22 designated uses, except that the following segment-specific criteria apply: the monthly geometric mean of *E. coli*
23 bacteria 206 cfu/100 mL or less, single sample 940 cfu/100 mL or less.
24 [20.6.4.410 NMAC - N, 07-10-12]

25
26 **20.6.4.411 - 20.6.4.450: [RESERVED]**

27
28 **20.6.4.451 LITTLE COLORADO RIVER BASIN - The Rio Nutria upstream of the Zuni pueblo**
29 **boundary, Tampico draw, Agua Remora, Tampico springs.**

30 **A. Designated uses:** coolwater aquatic life, livestock watering, wildlife habitat and primary contact.

31 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
32 designated uses.
33 [20.6.4.451 NMAC - N, 12-01-10]

34
35 **20.6.4.452 LITTLE COLORADO RIVER BASIN: - Ramah lake.**

36 **A. Designated uses:** coldwater aquatic life, warmwater aquatic life, irrigation, livestock watering,
37 wildlife habitat and primary contact.

38 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
39 designated uses, except that the following segment-specific criterion applies: temperature 25°C (77°F) or less.
40 [20.6.4.452 NMAC - N, 12-01-10]

41
42 **20.6.4.453 LITTLE COLORADO RIVER BASIN: - Quemado lake.**

43 **A. Designated uses:** coolwater aquatic life, primary contact, livestock watering and wildlife habitat.

44 **B. Criteria:** The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
45 designated uses.
46 [20.6.4.453 NMAC - N, 07-10-12]

47
48 **20.6.4.454 - 20.6.4.500 [RESERVED]**

49
50 **20.6.4.501 GILA RIVER BASIN: - The main stem of the Gila river from the New Mexico-Arizona line**
51 **upstream to Redrock canyon and perennial reaches of streams in Hidalgo county.**

52 **A. Designated uses:** irrigation, marginal warmwater aquatic life, livestock watering, wildlife habitat
53 and primary contact.

54 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
55 designated uses.
56 [20.6.4.501 NMAC - Rp 20 NMAC 6.1.2501, 10-12-00; A, 05-23-05; A, 12-01-10]

1
2 **20.6.4.502 GILA RIVER BASIN: The main stem of the Gila river from Redrock canyon upstream to**
3 **the confluence of the West Fork Gila river and East Fork Gila river and perennial reaches of tributaries to**
4 **the Gila river downstream of Mogollon creek.**

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

7 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
8 designated uses, except that the following segment-specific criterion applies: 28°C (82.4°F) or less.

9 [20.6.4.502 NMAC - Rp 20 NMAC 6.1.2502, 10-12-2000; A, 05-23-2005; A, 12-01-2010; A, 03-02-2017]
10

11 **20.6.4.503 GILA RIVER BASIN: All perennial tributaries to the Gila river upstream of and including**
12 **Mogollon creek.**

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

15 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
16 designated uses, except that the following segment-specific criteria apply: specific conductance of 400 µS/cm or less
17 for all perennial tributaries except West Fork Gila and tributaries thereto, specific conductance of 300 µS/cm or less;
18 32.2°C (90°F) or less in the east fork of the Gila river and Sapillo creek downstream of Lake Roberts; the monthly
19 geometric mean of E. coli bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.

20 [20.6.4.503 NMAC - Rp 20 NMAC 6.1.2503, 10-12-2000; A, 05-23-2005; A, 12-01-2010; A, 03-02-2017]
21

22 **20.6.4.504 GILA RIVER BASIN: - Wall lake, Lake Roberts and Snow lake.**

23 **A. Designated uses:** coldwater aquatic life, irrigation, livestock watering, wildlife habitat and
24 primary contact.

25 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
26 designated uses, except that the following segment-specific criterion applies: specific conductance 300 µS/cm or
27 less.

28 [20.6.4.504 NMAC - Rp 20 NMAC 6.1.2504, 10-12-00; A, 05-23-05; A, 12-01-10]

29 [NOTE: The segment covered by this section was divided effective 05-23-05. The standards for the additional
30 segment are under 20.6.4.806 NMAC.]
31

32 **20.6.4.505 GILA RIVER BASIN: - Bill Evans lake.**

33 **A. Designated uses:** coolwater aquatic life, primary contact, livestock watering and wildlife habitat.

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

36 [20.6.4.505 NMAC - N, 07-10-12]
37

38 **20.6.4.506 - 20.6.4.600 [RESERVED]**
39

40 **20.6.4.601 SAN FRANCISCO RIVER BASIN: - The main stem of the San Francisco river from the**
41 **New Mexico-Arizona line upstream to state highway 12 at Reserve and perennial reaches of Mule creek.**

42 **A. Designated uses:** irrigation, marginal warmwater and marginal coldwater aquatic life, livestock
43 watering, wildlife habitat and primary contact.

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

46 [20.6.4.601 NMAC - Rp 20 NMAC 6.1.2601, 10-12-00; A, 05-23-05; A, 12-01-10]
47

48 **20.6.4.602 SAN FRANCISCO RIVER BASIN: - The main stem of the San Francisco river from state**
49 **highway 12 at Reserve upstream to the New Mexico-Arizona line.**

50 **A. Designated uses:** coldwater aquatic life, irrigation, livestock watering, wildlife habitat and
51 primary contact.

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

54 [20.6.4.602 NMAC - Rp 20 NMAC 6.1.2602, 10-12-00; A, 05-23-05; A, 12-01-10]
55

1 **20.6.4.603 SAN FRANCISCO RIVER BASIN: - All perennial reaches of tributaries to the San**
2 **Francisco river above the confluence of Whitewater creek and including Whitewater creek.**

3 **A. Designated uses:** domestic water supply, fish culture, high quality coldwater aquatic life,
4 irrigation, livestock watering, wildlife habitat and primary contact.

5 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
6 designated uses, except that the following segment-specific criteria apply: specific conductance 400 μ S/cm or less;
7 the monthly geometric mean of *E. coli* bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less; and
8 temperature 25°C (77°F) or less in Tularosa creek.

9 [20.6.4.603 NMAC - Rp 20 NMAC 6.1.2603, 10-12-00; A, 05-23-05; A, 12-01-10]

10
11 **20.6.4.604 - 20.6.4.700 [RESERVED]**

12
13 **20.6.4.701 DRY CIMARRON RIVER: - Perennial portions of the Dry Cimarron river above Oak creek**
14 **and perennial reaches of Oak creek.**

15 **A. Designated uses:** coldwater aquatic life, irrigation, livestock watering, wildlife habitat and
16 primary contact.

17 **B. Criteria:**

18 (1) The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
19 designated uses, except that the following segment-specific criteria apply: temperature 25°C (77°F) or less, the
20 monthly geometric mean of *E. coli* bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.

21 (2) TDS 1,200 mg/L or less, sulfate 600 mg/L or less and chloride 40 mg/L or less.

22 [20.6.4.701 NMAC - Rp 20 NMAC 6.1.2701, 10-12-00; A, 05-23-05 A, 12-01-10]

23 [NOTE: The segment covered by this section was divided effective 05-23-05. The standards for the additional
24 segment are under 20.6.4.702 NMAC.]

25
26 **20.6.4.702 DRY CIMARRON RIVER: - Perennial portions of the Dry Cimarron river below Oak**
27 **creek, and perennial portions of Long canyon and Carrizozo creeks.**

28 **A. Designated uses:** coolwater aquatic life, irrigation, livestock watering, wildlife habitat and
29 primary contact.

30 **B. Criteria:**

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

34 (2) TDS 1,200 mg/L or less, sulfate 600 mg/L or less and chloride 40 mg/L or less.

35 [20.6.4.702 NMAC - N, 05-23-05; A, 12-01-10; A, 07-10-12]

36
37 **20.6.4.703 - 20.6.4.800 [RESERVED]**

38
39 **20.6.4.801 CLOSED BASINS: - Rio Tularosa eastupstream of the old U.S. highway 70 bridge crossing**
40 **east of Tularosa and all perennial tributaries to the Tularosa basin except Three Rivers and Dog Canyon**
41 **creek, and excluding waters on the Mescalero tribal lands.**

42 **A. Designated uses:** coldwater aquatic life, irrigation, livestock watering, wildlife habitat, public
43 water supply and primary contact.

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

47 [20.6.4.801 NMAC - Rp 20 NMAC 6.1.2801, 10-12-00; A, 05-23-05; A, 12-01-10; A, XX-XX-XXXX]

48 [NOTE: This segment was divided effective XX-XX-XX. The standards for Dog Canyon creek are under
49 20.6.4.810 NMAC.]

50
51 **20.6.4.802 CLOSED BASINS: - Perennial reaches of Three Rivers.**

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

54 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
55 designated uses, except that the following segment-specific criteria apply: specific conductance 500 μ S/cm or less;
56 the monthly geometric mean of *E. coli* bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.

1 [20.6.4.802 NMAC - Rp 20 NMAC 6.1.2802, 10-12-00; A, 05-23-05; A, 12-01-10]
2

3 **20.6.4.803 CLOSED BASINS: Perennial reaches of the Mimbres river downstream of the confluence**
4 **with Allie canyon and all perennial reaches of tributaries thereto.**

5 **A. Designated uses:** Coolwater aquatic life, irrigation, livestock watering, wildlife habitat and
6 primary contact.

7 **B. Criteria:** The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
8 designated uses, except that the following segment-specific criteria apply: the monthly geometric mean of E. coli
9 bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less and temperature of 30°C (86°F) or less.
10 [20.6.4.803 NMAC - Rp 20 NMAC 6.1.2803, 10-12-2000; A, 05-23-2005; A, 12-01-2010; A, 03-02-2017]
11

12 **20.6.4.804 CLOSED BASINS: Perennial reaches of the Mimbres river upstream of the confluence with**
13 **Allie canyon to Cooney canyon, and all perennial reaches of East Fork Mimbres (McKnight canyon)**
14 **downstream of the fish barrier, and all perennial reaches thereto.**

15 **A. Designated uses:** Irrigation, domestic water supply, high quality coldwater aquatic life, livestock
16 watering, wildlife habitat and primary contact.

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

20 [20.6.4.804 NMAC - Rp 20 NMAC 6.1.2804, 10-12-2000; A, 05-23-2005; A, 12-01-2010; A, 03-02-2017]

21 [NOTE: The segment covered by this section was divided effective 03-02-2017. The standards for the additional
22 segment are covered under 20.6.4.807 NMAC.]
23

24 **20.6.4.805 CLOSED BASINS: - Perennial reaches of the Sacramento river (Sacramento-Salt Flat**
25 **closed basin) and all perennial tributaries thereto.**

26 **A. Designated uses:** domestic water supply, livestock watering, wildlife habitat, marginal coldwater
27 aquatic life and primary contact.

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

30 [20.6.4.805 NMAC - Rp 20 NMAC 6.1.2805, 10-12-00; A, 05-23-05; A, 12-01-10]
31

32 **20.6.4.806 CLOSED BASINS: - Bear canyon reservoir.**

33 **A. Designated uses:** coldwater aquatic life, irrigation, livestock watering, wildlife habitat and
34 primary contact.

35 **B. Criteria:** the use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
36 designated uses, except that the following segment-specific criterion applies: specific conductance 300 µS/cm or
37 less.

38 [20.6.4.806 NMAC - N, 05-23-05; A, 12-01-10]
39

40 **20.6.4.807 CLOSED BASINS: Perennial reaches of the Mimbres river upstream of Cooney canyon and**
41 **all perennial reaches thereto, including perennial reaches of East Fork Mimbres river (McKnight canyon)**
42 **upstream of the fish barrier.**

43 **A. Designated uses:** Irrigation, domestic water supply, high quality coldwater aquatic life, livestock
44 watering, wildlife habitat and primary contact.

45 **B. Criteria:** The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
46 designated uses, except that the following segment-specific criteria apply: specific conductance 300 µS/cm or less;
47 the monthly geometric mean of E. coli bacteria 126 cfu/100 mL or less, single sample 235 cfu/100 mL or less.
48 [20.6.4.807 NMAC - N, 03-02-2017]
49

50 **20.6.4.808 CLOSED BASINS: Perennial and intermittent watercourses within Smelter Tailing Soils**
51 **Investigation Unit lands at the Chino mines company, excluding those ephemeral waters listed in 20.6.4.809**
52 **NMAC and including, but not limited to, the mainstem of Lampbright draw, beginning at the confluence of**
53 **Lampbright Draw with Rustler canyon, all tributaries that originate west of Lampbright draw to the**
54 **intersection of Lampbright draw with U.S. 180, and all tributaries of Whitewater creek that originate east of**
55 **Whitewater creek from the confluence of Whitewater creek with Bayard canyon downstream to the**
56 **intersection of Whitewater creek with U.S. 180.**

1 **A. Designated uses:** Warmwater aquatic life, livestock watering, wildlife habitat and primary
2 contact.

3 **B. Criteria:** The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
4 designated uses, except that the following segment-specific criteria apply: the acute and chronic aquatic life criteria
5 for copper set forth in Subsection I of 20.6.4.900 NMAC shall be determined by multiplying that criteria by the
6 water effect ratio (“WER”) adjustment expressed by the following equation:

$$\text{WER} = \frac{[10^{0.588+(0.703 \times \log \text{DOC})+(0.395 \times \log \text{Alkalinity})}] \times \left(\frac{100}{\text{Hardness}}\right)^{0.9422}}{19.31}$$

7
8 For purposes of this section, dissolved organic carbon (DOC) is expressed in units of milligrams carbon per liter or
9 mg C/L; alkalinity is expressed in units of mg/L as CaCO₃, and hardness is expressed in units of mg/L as CaCO₃. In
10 waters that contain alkalinity concentrations greater than 250 mg/L, a value of 250 mg/L shall be used in the
11 equation. In waters that contain DOC concentrations greater than 16 mg C/L, a value of 16 mg C/L shall be used in
12 the equation. In waters that contain hardness concentrations greater than 400 mg/L, a value of 400 mg/L shall be
13 used in the equation. The alkalinity, hardness and DOC concentrations used to calculate the WER value are those
14 measured in the subject water sample.

15 [20.6.4.808 NMAC - N, 03-02-2017]

16
17 **20.6.4.809 CLOSED BASINS: Ephemeral watercourses within smelter tailing soils investigation unit**
18 **lands at the Chino mines company, limited to Chino mines property subwatershed drainage A and tributaries**
19 **thereof, Chino mines property subwatershed drainage B and tributaries thereof (excluding the northwest**
20 **tributary containing Ash spring and the Chiricahua leopard frog critical habitat transect); Chino mines**
21 **property subwatershed drainage C and tributaries thereof (excluding reaches containing Bolton spring, the**
22 **Chiricahua leopard frog critical habitat transect and all reaches in subwatershed C that are upstream of the**
23 **Chiricahua leopard frog critical habitat); subwatershed drainage D and tributaries thereof (drainages D-1,**
24 **D-2 and D-3, excluding the southeast tributary in drainage D1 that contains Brown spring) and subwatershed**
25 **drainage E and all tributaries thereof (drainages E-1, E-2 and E-3).**

26 **A. Designated uses:** Limited aquatic life, livestock watering, wildlife habitat and secondary contact.

27 **B. Criteria:** The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the
28 designated uses, except that the following segment-specific criteria apply: the acute aquatic life criteria for copper
29 set forth in Subsection I of 20.6.4.900 NMAC shall be determined by multiplying that criteria by the water effect
30 ratio (“WER”) adjustment expressed by the following equation:

$$\text{WER} = \frac{[10^{0.588+(0.703 \times \log \text{DOC})+(0.395 \times \log \text{Alkalinity})}] \times \left(\frac{100}{\text{Hardness}}\right)^{0.9422}}{19.31}$$

31
32 For purposes of this section, dissolved organic carbon (DOC) is expressed in units of milligrams carbon per liter or
33 mg C/L; alkalinity is expressed in units of mg/L as CaCO₃, and hardness is expressed in units of mg/L as CaCO₃. In
34 waters that contain alkalinity concentrations greater than 250 mg/L, a value of 250 mg/L shall be used in the
35 equation. In waters that contain DOC concentrations greater than 16 mg C/L, a value of 16 mg C/L shall be used in
36 the equation. In waters that contain hardness concentrations greater than 400 mg/L, a value of 400 mg/L shall be
37 used in the equation. The alkalinity, hardness and DOC concentrations used to calculate the WER value are those
38 measured in the subject water sample.

39 [20.6.4.809 NMAC - N, 03-02-2017]

40
41 **20.6.4.810 CLOSED BASINS: Perennial reaches of Dog Canyon creek.**

42 **A. Designated uses:** coolwater aquatic life, irrigation, livestock watering, wildlife habitat, public
43 water supply, and primary contact.

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

47 [20.6.4.810 NMAC - N, XX-XX-XXXX]

48
49 **20.6.4.811[0] - 20.6.4.899 [RESERVED]**

50
51 **20.6.4.900 CRITERIA APPLICABLE TO EXISTING, DESIGNATED OR ATTAINABLE USES**
52 **UNLESS OTHERWISE SPECIFIED IN 20.6.4.97 THROUGH 20.6.4.899 NMAC:**

1 **A. Fish culture and water supply:** Fish culture, public water supply and industrial water supply are
2 designated uses in particular classified waters of the state where these uses are actually being realized. However, no
3 numeric criteria apply uniquely to these uses. Water quality adequate for these uses is ensured by the general criteria
4 and numeric criteria for bacterial quality, pH and temperature.

5 **B. Domestic water supply:** Surface waters of the state designated for use as domestic water supplies
6 shall not contain substances in concentrations that create a lifetime cancer risk of more than one cancer per 100,000
7 exposed persons. Those criteria listed under domestic water supply in Subsection J of this section apply to this use.

8 **C. Irrigation and irrigation storage:** the following numeric criteria and those criteria listed under
9 irrigation in Subsection J of this section apply to this use:

10 (1) dissolved selenium 0.13 mg/L

11 (2) dissolved selenium in presence of >500 mg/L SO₄ 0.25 mg/L.

12 **D. Primary contact:** The monthly geometric mean of *E. coli* bacteria of 126 cfu/100 mL or
13 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
14 this use. The results for *E. coli* may be reported as either colony forming units (CFU) or the most probable number
15 (MPN) depending on the analytical method used.

16 **E. Secondary contact:** The monthly geometric mean of *E. coli* bacteria of 548 cfu/100 mL or
17 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
18 be reported as either colony forming units (CFU) or the most probable number (MPN), depending on the analytical
19 method used.

20 **F. Livestock watering:** the criteria listed in Subsection J of this section for livestock watering apply
21 to this use.

22 **G. Wildlife habitat:** Wildlife habitat shall be free from any substances at concentrations that are
23 toxic to or will adversely affect plants and animals that use these environments for feeding, drinking, habitat or
24 propagation; can bioaccumulate; or might impair the community of animals in a watershed or the ecological
25 integrity of surface waters of the state. The numeric criteria listed in Subsection J for wildlife habitat apply to this
26 use.

27 **H. Aquatic life:** Surface waters of the state with a designated, existing or attainable use of aquatic
28 life shall be free from any substances at concentrations that can impair the community of plants and animals in or
29 the ecological integrity of surface waters of the state. Except as provided in Paragraph (7) of this subsection, the
30 acute and chronic aquatic life criteria set out in Subsections I, J, K and L of this section and the human health-
31 organism only criteria set out in Subsection J of this section are applicable to all aquatic life use subcategories. In
32 addition, the specific criteria for aquatic life subcategories in the following paragraphs apply to waters classified
33 under the respective designations.

34 (1) **High quality coldwater:** dissolved oxygen 6.0 mg/L or more, 4T3 temperature 20°C
35 (68°F), maximum temperature 23°C (73°F), pH within the range of 6.6 to 8.8 and specific conductance a segment-
36 specific limit between 300 µS/cm and 1,500 µS/cm depending on the natural background in the particular surface
37 water of the state (the intent of this criterion is to prevent excessive increases in dissolved solids which would result
38 in changes in community structure). Where a single segment-specific temperature criterion is indicated in
39 20.6.4.101-899 NMAC, it is the maximum temperature and no 4T3 temperature applies.

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

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

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

50 (5) **Warmwater:** dissolved oxygen 5 mg/L or more, maximum temperature 32.2°C (90°F)
51 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
52 NMAC, it is the maximum temperature.

53 (6) **Marginal warmwater:** dissolved oxygen 5 mg/L or more, pH within the range of 6.6 to
54 9.0 and maximum temperature 32.2°C (90°F). Where a segment-specific temperature criterion is indicated in
55 20.6.4.101-899 NMAC, it is the maximum temperature.

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

4 **I. Hardness-dependent acute and chronic aquatic life criteria for metals** are calculated using the
 5 following equations. The criteria are expressed as a function of dissolved hardness (as mg CaCO₃/L). With the
 6 exception of aluminum, the equations are valid only for dissolved hardness concentrations of 0-400 mg/L. For
 7 dissolved hardness concentrations above 400 mg/L, the criteria for 400 mg/L apply. For aluminum the equations are
 8 valid only for dissolved hardness concentrations of 0-220 mg/L. For dissolved hardness concentrations above 220
 9 mg/L, the aluminum criteria for 220 mg/L apply.

10 (1) **Acute aquatic life criteria for metals:** The equation to calculate acute criteria in µg/L is
 11 $\exp(m_A[\ln(\text{hardness})] + b_A)(CF)$. Except for aluminum, the criteria are based on analysis of dissolved metal. For
 12 aluminum, the criteria are based on analysis of total recoverable aluminum in a sample that is filtered to minimize
 13 mineral phases as specified by the department. The EPA has disapproved the hardness-based equation for total
 14 recoverable aluminum in waters where the pH is less than 6.5 in the receiving stream for federal purposes of the
 15 Clean Water Act. The equation parameters are as follows:

Metal	m_A	b_A	Conversion factor (CF)
Aluminum (Al)	1.3695	1.8308	
Cadmium (Cd)	0.8968	-3.5699	$1.136672 - [(\ln \text{hardness})(0.041838)]$
Chromium (Cr) III	0.8190	3.7256	0.316
Copper (Cu)	0.9422	-1.700	0.960
Lead (Pb)	1.273	-1.460	$1.46203 - [(\ln \text{hardness})(0.145712)]$
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

16 (2) **Chronic aquatic life criteria for metals:** The equation to calculate chronic criteria in
 17 µg/L is $\exp(m_C[\ln(\text{hardness})] + b_C)(CF)$. Except for aluminum, the criteria are based on analysis of dissolved metal.
 18 For aluminum, the criteria are based on analysis of total recoverable aluminum in a sample that is filtered to
 19 minimize mineral phases as specified by the department. The EPA has disapproved the hardness-based equation for
 20 total recoverable aluminum in waters where the pH is less than 6.5 in the receiving stream for federal purposes of
 21 the Clean Water Act. The equation parameters are as follows:

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

22 (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
	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

Hardness as CaCO ₃ , dissolved (mg/L)		Al	Cd	Cr III	Cu	Pb	Mn	Ni	Ag	Zn
		60	Acute	1,699	1.07	370	8	37	2,519	300
	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		4.21	1,400	38	210	4,305	1190	21	435
	Chronic		1.00	180	23	8	2,379	130		329
400 and above	Acute		5.38	1,770	50	280	4,738	1510	35	564
	Chronic		1.22	230	29	11	2,618	170		428

J. Use-specific numeric criteria.

(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.

Pollutant	CAS Number	DWS	Irr	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		

Pollutant	CAS Number	DWS	Irr	LW	WH	Aquatic Life			Type
						Acute	Chronic	HH-OO	
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
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
Benzo(a)anthracene	56-55-3	0.048						0.18	C
Benzo(a)pyrene	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	117817	6						22	C
Bromoform	75-25-2	44						1,400	C
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

Pollutant	CAS Number	DWS	Irr	LW	WH	Aquatic Life			Type
						Acute	Chronic	HH-OO	
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	
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
Hexachlorocyclopentadiene	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	

Pollutant	CAS Number	DWS	Irr	LW	WH	Aquatic Life			Type
						Acute	Chronic	HH-OO	
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 Biphenyls (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
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

(2) Notes applicable to the table of numeric criteria in Paragraph (1) 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) apply to the sum of all congeners, to the sum of all homologs or to the sum of all aroclors.

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

pH	Where Salmonids Present	Where Salmonids Absent
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 from below 0 to 14°C, the criteria for 14°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.

(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:

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

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

pH	Temperature (°C)									
	14 and below	15	16	18	20	22	24	26	28	30 and above
6.5 and below	6.67	6.46	6.06	5.33	4.68	4.12	3.62	3.18	2.80	2.46
6.6	6.57	6.36	5.97	5.25	4.61	4.05	3.56	3.13	2.75	2.42
6.7	6.44	6.25	5.86	5.15	4.52	3.98	3.50	3.07	2.70	2.37
6.8	6.29	6.10	5.72	5.03	4.42	3.89	3.42	3.00	2.64	2.32
6.9	6.12	5.93	5.56	4.89	4.30	3.78	3.32	2.92	2.57	2.25
7.0	5.91	5.73	5.37	4.72	4.15	3.65	3.21	2.82	2.48	2.18
7.1	5.67	5.49	5.15	4.53	3.98	3.50	3.08	2.70	2.38	2.09
7.2	5.39	5.22	4.90	4.31	3.78	3.33	2.92	2.57	2.26	1.99
7.3	5.08	4.92	4.61	4.06	3.57	3.13	2.76	2.42	2.13	1.87
7.4	4.73	4.59	4.30	3.78	3.32	2.92	2.57	2.26	1.98	1.74
7.5	4.36	4.23	3.97	3.49	3.06	2.69	2.37	2.08	1.83	1.61
7.6	3.98	3.85	3.61	3.18	2.79	2.45	2.16	1.90	1.67	1.47
7.7	3.58	3.47	3.25	2.86	2.51	2.21	1.94	1.71	1.50	1.32
7.8	3.18	3.09	2.89	2.54	2.23	1.96	1.73	1.52	1.33	1.17
7.9	2.80	2.71	2.54	2.24	1.96	1.73	1.52	1.33	1.17	1.03

pH	Temperature (°C)									
	14 and below	15	16	18	20	22	24	26	28	30 and above
8.0	2.43	2.36	2.21	1.94	1.71	1.50	1.32	1.16	1.02	0.897
8.1	2.10	2.03	1.91	1.68	1.47	1.29	1.14	1.00	0.879	0.773
8.2	1.79	1.74	1.63	1.43	1.26	1.11	0.973	0.855	0.752	0.661
8.3	1.52	1.48	1.39	1.22	1.07	0.941	0.827	0.727	0.639	0.562
8.4	1.29	1.25	1.17	1.03	0.906	0.796	0.700	0.615	0.541	0.475
8.5	1.09	1.06	0.990	0.870	0.765	0.672	0.591	0.520	0.457	0.401
8.6	0.920	0.892	0.836	0.735	0.646	0.568	0.499	0.439	0.386	0.339
8.7	0.778	0.754	0.707	0.622	0.547	0.480	0.422	0.371	0.326	0.287
8.8	0.661	0.641	0.601	0.528	0.464	0.408	0.359	0.315	0.277	0.244
8.9	0.565	0.548	0.513	0.451	0.397	0.349	0.306	0.269	0.237	0.208
9.0 and above	0.486	0.471	0.442	0.389	0.342	0.300	0.264	0.232	0.204	0.179

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

At 15°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).

1 [20.6.4.900 NMAC - Rp 20 NMAC 6.1.3100, 10-12-2000; A, 10-11-2002; A, 05-23-2005; A, 07-17-2005; A, 12-
2 01-2010; A, 03-02-2017]

3
4 **20.6.4.901 PUBLICATION REFERENCES:** These documents are intended as guidance and are available
5 for public review during regular business hours at the offices of the surface water quality bureau. Copies of these
6 documents have also been filed with the New Mexico state records center in order to provide greater access to this
7 information.

8 **A.** American public health association. 1992. *Standard Methods For The Examination Of Water
9 And Wastewater, 18th Edition.* Washington, D.C. 1048 p.

10 **B.** American public health association. 1995. *Standard Methods For The Examination Of Water And
11 Wastewater, 19th Edition.* Washington, D.C. 1090 p.

12 **C.** American public health association. 1998. *Standard Methods For The Examination Of Water And
13 Wastewater, 20th Edition.* Washington, D.C. 1112 p.

14 **D.** United States geological survey. 1987. *Methods For Determination Of Inorganic Substances In
15 Water And Fluvial Sediments, Techniques Of Water-Resource Investigations Of The United States Geological
16 Survey.* Washington, D.C. 80 p.

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

20 **F.** United States environmental protection agency. 1974. *Methods For Chemical Analysis Of Water
21 And Wastes.* National environmental research center, Cincinnati, Ohio. (EPA-625-/6-74-003). 298 p.

22 **G.** New Mexico water quality control commission. 2003. *(208) State Of New Mexico Water Quality
23 Management Plan.* Santa Fe, New Mexico. 85 p.

24 **H.** Colorado river basin salinity control forum. 2014. *2014 Review, Water Quality Standards For
25 Salinity, Colorado River System.* Phoenix, Arizona. 99 p.

26 **I.** United States environmental protection agency. 2002. *Methods For Measuring The Acute Toxicity
27 Of Effluents And Receiving Waters To Freshwater And Marine Organisms.* Office of research and development,
28 Washington, D.C. (5th Ed., EPA 821-R-02-012). 293 p. <http://www.epa.gov/ostWET/disk2/atx.pdf>

29 **J.** United States environmental protection agency. 2002. *Short-Term Methods For Estimating The
30 Chronic Toxicity Of Effluents And Receiving Waters To Freshwater Organisms.* Environmental monitoring systems
31 laboratory, Cincinnati, Ohio. ([4th Ed., EPA 821-R-02-01). 335 p.

32 **K.** Ambient-induced mixing, in United States environmental protection agency. 1991. *Technical
33 Support Document For Water Quality-Based Toxics Control.* Office of water, Washington, D.C. (EPA/505/2-90-
34 001). 2 p.

35 **L.** United States environmental protection agency. 1983. *Technical Support Manual: Waterbody
36 Surveys And Assessments For Conducting Use Attainability Analyses.* Office of water, regulations and standards,
37 Washington, D.C. 251 p. <http://www.epa.gov/OST/library/wqstandards/uaavol123.pdf>

38 **M.** United States environmental protection agency. 1984. *Technical Support Manual: Waterbody
39 Surveys And Assessments For Conducting Use Attainability Analyses, Volume Iii: Lake Systems.* Office of water,
40 regulations and standards, Washington, D.C. 208 p. <http://www.epa.gov/OST/library/wqstandards/uaavol123.pdf>

41 [20.6.4.901 NMAC - Rp 20 NMAC 6.1.4000, 10-12-2000; A, 05-23-2005; A, 12-01-2010; A, 03-02-2017]

42 43 **HISTORY of 20.6.4 NMAC:**

44 **Pre-NMAC History:**

45 Material in the part was derived from that previously filed with the commission of public records - state records
46 center and archives:

47 WQC 67-1, Water Quality Standards, filed 7-17-67, effective 8-18-67

48 WQC 67-1, Amendment Nos. 1-6, filed 3-21-68, effective 4-22-68

49 WQC 67-1, Amendment No. 7, filed 2-27-69, effective 3-30-69

50 WQC 67-1, Amendment No. 8, filed 7-14-69, effective 8-15-69

51 WQC 70-1, Water Quality Standards for Intrastate Waters and Tributaries to Interstate Streams, filed July 17, 1970;

52 WQC 67-1, Amendment Nos. 9 and 10, filed 2-12-71, effective 3-15-71

53 WQC 67-1, Amendment No. 11, filed 3-4-71, effective 4-5-71

54 WQC 73-1, New Mexico Water Quality Standards, filed 9-17-73, effective 10-23-73

55 WQC 73-1, Amendment Nos. 1 and 2, filed 10-3-75, effective 11-4-75

56 WQC 73-1, Amendment No. 3, filed 1-19-76, effective 2-14-76

- 1 WQC 77-2, Amended Water Quality Standards for Interstate and Intrastate Streams in New Mexico, filed 2-24-77,
2 effective 3-11-77
- 3 WQC 77-2, Amendment No. 1, filed 3-23-78, effective 4-24-78
- 4 WQC 77-2, Amendment No. 2, filed 6-12-79, effective 7-13-79
- 5 WQCC 80-1, Water Quality Standards for Interstate and Intrastate Streams in New Mexico, filed 8-28-80, effective
6 9-28-80
- 7 WQCC 81-1, Water Quality Standards for Interstate and Intrastate Streams in New Mexico, filed 5-5-81, effective 6-
8 4-81
- 9 WQCC 81-1, Amendment No. 1, filed 5-19-82, effective 6-18-82
- 10 WQCC 81-1, Amendment No. 2, filed 6-24-82, effective 7-26-82
- 11 WQCC 85-1, Water Quality Standards for Interstate and Intrastate Streams in New Mexico, filed 1-16-85, effective
12 2-15-85
- 13 WQCC 85-1, Amendment No. 1, filed 8-28-87, effective 9-28-87
- 14 WQCC 88-1, Water Quality Standards for Interstate and Intrastate Streams in New Mexico, filed 3-24-88, effective
15 4-25-88
- 16 WQCC 91-1, Water Quality Standards for Interstate and Intrastate Streams in New Mexico, filed 5-29-91, effective
17 6-29-91
- 18 WQCC 91-1, Amendment No. 1, filed 10-11-91, effective 11-12-91

19

History of the Repealed Material:

- 21 WQC 67-1, Water Quality Standards, - Superseded, 10-23-73
- 22 WQC 73-1, New Mexico Water Quality Standards, - Superseded, 3-11-77
- 23 WQC 77-2, Amended Water Quality Standards for Interstate and Intrastate Streams in New Mexico, - Superseded,
24 9-28-80
- 25 WQCC 80-1, Water Quality Standards for Interstate and Intrastate Streams in New Mexico, - Superseded, 6-4-81
- 26 WQCC 81-1, Water Quality Standards for Interstate and Intrastate Streams in New Mexico, - Superseded, 2-15-85
- 27 WQCC 85-1, Water Quality Standards for Interstate and Intrastate Streams in New Mexico, - Superseded, 4-25-88
- 28 WQCC 88-1, Water Quality Standards for Interstate and Intrastate Streams in New Mexico, - Superseded, 6-29-91
- 29 WQCC 91-1, Water Quality Standards for Interstate and Intrastate Streams in New Mexico, - Superseded, 1-23-95
- 30 20 NMAC 6.1, Standards for Interstate and Intrastate Streams, - Repealed, 2-23-00
- 31 20 NMAC 6.1, Standards for Interstate and Intrastate Surface Waters, - Repealed, 10-12-00

