**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
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December 4, 2013

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Dear Ms. ~~Pintado~~: Kris

As the New Mexico Environment Department (NMED) prepares for the upcoming triennial review of the New Mexico *Standards for Interstate and Intrastate Surface Waters*, the Environmental Protection Agency (EPA) Region 6 would like to share some recommendations and suggestions for you and your staff to consider as part of this review and program-related planning efforts.

It should be noted that the recommendations and suggestions provided in the enclosure are preliminary and do not represent a finding under §303(c) of the Clean Water Act or Standards Regulation (40 CFR 131). Any decisions on new and revised water quality standards will be made by EPA following their adoption and submission to Region 6 by the New Mexico Water Quality Control Commission.

The Region recognizes that some of the recommendations and suggestions provided in the enclosures represent complex issues that may need to be addressed in incremental stages through the state's water quality standards and associated implementation over time. I would like to encourage discussions about these recommendations and suggestions as part the current and future water quality standards program-related planning.

The Region would also like to take this opportunity to commend the Surface Water Quality Board's efforts in the continuing development of New Mexico's water quality standards program. I look forward to continuing work with you and your staff on the protection of New Mexico's water resources. If you have any questions, please contact me at nelson.russell@epa.gov or (214) 665-6646.

Sincerely,

Russell Nelson
Regional Standards Coordinator
Watershed Management Section (6WQ-EW)

Enclosure

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SWQB EXHIBIT 05

# EPA Recommendations and Suggestions for Revisions of New Mexico's Surface Water Quality Standards

## Part 4. Standards for Interstate and Intrastate Surface Waters

### General Comment

In recent years, the Environmental Protection Agency (EPA) has begun to evaluate whether some types of provisions constitute new or revised water quality standards that the agency has the authority and duty to approve or disapprove under Clean Water Act (CWA) §303(c), following court decisions related to litigation on the State of Florida's water quality program. These types of provisions often include references to monitoring and assessment procedures or an implementation process for permitting under the National Pollutant Discharge Elimination System (NPDES). EPA published a guidance document in November 2012, to assist in this evaluation (available at: http://water.epa.gov/scitech/swguidance/standards/cwa303faq.cfm).

When reviewing draft and state adopted standards, EPA will make an effort to identify those provisions that would likely not be considered a standard under the CWA. EPA's determination that a specific provision is or is not a water quality standard will be based on the agency's 2012 guidance, rather than any kind of negative finding on a particular item. Also, with these determinations, EPA will recommend that a state or tribe remove the non-WQS item(s) from state or tribal standards, particularly if that provision complements other parts of the standards or related state or tribal regulations.

While the Region will review and evaluate provisions based on the agency's guidance and make recommendations accordingly, the continued development and refinement of standards implementation procedures that clarify the state's standards is encouraged and supported. In particular, the Region is committed to working with New Mexico on strengthening recently approved antidegradation implementation procedures, especially in consideration of permitted and nonpoint source (NPS) activities in ONRWs, and in Tier 2 reviews.

### 20.6.4.8 - Antidegradation Policy and Implementation Plan and ONRWs

Section 20.6.4.8 A.(3)(d) NMAC allows pre-existing land use activities to continue under specific circumstances. The phrase "pre-existing activities" appears intended to encompass any type of land use activity that the U.S. Forest Service (USFS), its permittees, or other land management or oversight agencies may carry out or authorize. This includes a broad range of activities that were authorized prior to designation of an Outstanding National Resource Water (ONRW). This provision only allows non-point source (NPS) discharges from pre-existing land

use activities *prior* to ONRW designation and allows them to continue *if controlled by BMPs*, and prohibits *new or increased* discharges to ONRWs after designation.

The Region considers allowing activities that existed prior to designation as an ONRW to continue reasonable given the limitation on *new or increased* discharges. However, there appears to be a significant discrepancy between the state's regulatory requirements and implementation. Although §20.6.4.8.A NMAC indicates that nonpoint source activities are not exempt from the provisions of a state's antidegradation policy, Appendix A, *Antidegradation Implementation Procedures* in the state's Continuing Planning Process (CPP) document specifically states that "these procedures do not apply to nonpoint sources." Although EPA lacks authority to require state regulation of nonpoint sources, and states may adopt antidegradation policies exempting nonpoint sources (*See American Wildlands* v. *Browner*, 415 F.3d 1121 (10th Cir. 2001)), 40 CFR 131.12(a)(2) requires states to adopt provisions in their antidegradation policy that assure all cost-effective and reasonable best management practices established under state authority are implemented for nonpoint sources before the state authorizes degradation of high quality waters by point sources (see Interpretation of Federal Antidegradation Requirement, USEPA, 1994a) (PDF) (6 pp, 446K). The divergence of NPS procedures from the point source procedures in the CPP conflicts with §20.6.4.8.A NMAC and should be addressed since it is unclear how the state's policy provision can be applied.

This discrepancy is particularly important given that almost all of the state's ONRWs are in lands managed by the USFS. It is unclear how these antidegradation policy provisions can be met given that the majority of the USFS's activities or those carried out by other oversight agencies and/or their respective permittees may result in NPS pollution but are exempted from implementation as stated in Appendix A. This is particularly a concern given that there is no specific requirement for baseline water quality data after designation as an ONRW. The Region is aware of what may be a draft Appendix G, "Guidance for Nonpoint Source Discharges in Outstanding National Resource Waters." Even if finalized and adopted by the Commission, the draft as written is unclear on how it could be implemented to provide added protection in waters designated as ONRWs given the NPS exemption in the CPP (Appendix A).

The Region is also aware that NMED renewed a Memorandum of Understanding (MOU) with the USFS. Our understanding is that the MOU is intended to document the cooperation between NMED and the USFS, implementing progressive watershed-based restoration protection programs to meet applicable water quality standards. Although §20.6.4.8 A.(4) NMAC is intended to allow for restoration, there is no accompanying implementation to guide such activities. Further, an MOU typically does not imply a legal commitment or enforceable agreement. Given the significant concerns expressed by the USFS concerning funding and other factors in its comments on the state's then draft antidegradation provisions, there is no assurance that any commitments outlined in this MOU can be met. Although all federal agencies are required to meet applicable state water quality standards, it is important to understand that the Commission, not the USFS, other oversight agency or their permittees is ultimately responsible for insuring that the state's water quality standards are met.

Although §20.6.4.9 NMAC contains a requirement for baseline water quality data "if available," it is specific to determining if waters should be designated as ONRWs and not determining baseline conditions prior to any activity that may result in degradation of an ONRW. While

there is no federal requirement that ONRW designation be based on water quality, the baseline data requirement in §20.6.4.9 NMAC will be essential to supporting waters designated as an ONRW specifically because of high water quality. That characteristic may not be an determining factor in other ONRW designations. Waters may be designated as an ONRW based on ecological or recreation significance which often has little to do with water quality. Baseline water quality data obtained prior to designation of an ONRW may not provide a good indicator of water quality over time, necessitating the need for baseline water quality data obtained *prior to the planned action*. Without baseline data prior to a planned action there is no way to carry out a Tier 2 review and determine if, what may otherwise be an allowable activity has resulted in long-term or permanent degradation that the state's policy clearly prohibits. The baseline data requirement prior to ONRW designation is a valuable tool, but it's critical that the state's antidegradation policy require baseline water quality data as part of an antidegradation review prior to any potentially degrading action in any water of the state, including ONRWs.

### 20.6.4.8 A – Antidegradation Policy and Implementation

Early in the development of the current antidegradation policy provisions, NMED drafted language that later became §20.6.4.8 A.(4)(a) NMAC allowing for "restoration and maintenance" activities in ONRWs. Region 6 supported the development of such a provision given that restoration and maintenance of the nation's waters is a fundamental goal of the CWA. But it is important to understand that EPA sees a clear distinction between allowable temporary and short-term activities under a state antidegradation policy and the fundamental CWA objective of restoration and maintenance of all waters, including ONRWs. This distinction is why there is no published guidance on how the CWA §101(a) restoration and maintenance objective relates to the framework of state antidegradation policies.

The Region previously recommended that the state establish a separate enabling long-term restoration provision outside of the state's antidegradation policy that could be applied to all waters and not be limited to ONRWs. A long-term restoration provision would allow for a wide range of projects, from relatively small in-stream hydrologic and/or riparian restoration to much larger projects such as mine remediation. Such a provision should recognize that restoration projects may require a significant amount of time to completed and stabilize, particularly in the predominantly semi-arid to arid climate found in most of New Mexico. In response, NMED retained §20.6.4.8 A.(4)(a) NMAC, but also adopted §20.6.4.8 A.(4)(b) NMAC, which is intended to ensure that the "restore and maintain" objective of the CWA applies to all waters of the state.

Restoration activities should be expected to take more time than the temporary and short-term activities described in the preamble to the Standards Regulation and allowed by §20.6.4.8 A.(3) NMAC, and depending on the activity, significantly more time. The Region is concerned that not only will it be difficult to for the public and regulated community understand how §20.6.4.8 A.(4)(b) NMAC can be applied, and that the lack of detailed implementation specific to long-term activities allowable under this provision will make it difficult for EPA to support restoration projects despite our support of the state's intent. The Region strongly recommends that the content in §20.6.4.8 A.(4)(b) NMAC be expanded and established as a separate provision outside of the state's antidegradation policy provisions. A revised provision should be expanded to

allow for long-term restoration and remediation activities, depending on site-specific circumstances. The expanded provision should include what may be termed as "temporary" standards applicable for a portion of or the duration of a long-term restoration project. Such a provision should be supported by detailed implementation in the state's CPP that outlines goals and objectives, the types of activities contemplated, controls on point sources and NPS for the duration of a project, milestones and timelines, and be consistent with the state's antidegradation policy.

## Wetland Water Quality Standards

The Water Quality Standards regulations at 40 CFR Parts 131 provides specific requirements for development of standards including specifying appropriate water uses to be achieved and protected. These requirements include providing appropriate criteria to support those designated uses and applying anti-degradation policy to all waters, including wetlands. The federal regulation also provides states and tribes with the flexibility to adopt sub-categories of uses and associated criteria to allow for differentiation between types of wetlands, their expected uses, functions and condition. EPA's guidance on Water Quality Standards for Wetlands (1990) outlines five key steps for developing water quality standards for wetlands: 1) define wetlands as "state waters"; (2) designate uses that protect the structure and function of wetlands; (3) adopt narrative criteria and appropriate numeric criteria in the standards to protect the designated uses; (4) adopt narrative biological criteria in the standards; and (5) extend the antidegradation policy and implementation methods.

Consistent with EPA guidance and federal regulations, New Mexico has taken the first of these five steps by including wetlands in its definition of "surface waters of the state." and also separately defines wetlands. In doing so, the state has recognized that the CWA and its implementing regulations apply to all surface waters including wetlands. The SWQB has a CWA §104(b) FY11 project workplan in place that outlines a 3-year Phase 3 project that identifies three specific actions items related to wetlands. The first action item in this grant supports laying the groundwork for developing wetland designated uses (which can be referred to as wetland functions) and wetlands specific designated uses for riverine wetlands. This is similar to step two and possibly step three outlined in EPA's 1990 guidance.

The development of designated functional uses specific to wetlands is essential because CWA §101(a)(2) uses are presumed to be supported in all unclassified waters of the state, which includes wetlands. The state's standards specify that unclassified waters are subject to §20.6.4.98 NMAC if nonperennial or subject to §20.6.4.99 NMAC if perennial. This is significant because the uses described in §§20.6.4.98 and 99 NMAC and associated criteria are intended for lotic waters and are not appropriate and cannot be supported in the majority of wetlands. There are two problems here; 1) Which use applies to what wetland, and 2) If the CWA §101(a)(2) uses that apply to these waters are not supported, they should be included on the state's §303(d) list. Given these regulatory requirements, the Region strongly recommends that the state develop and adopt functional uses appropriate for wetlands supported by numeric or narrative criteria.

The provisions the state develops should protect the hydrology and other critical functions of wetlands. This could be accomplished in several ways, including the establishment of wetland-specific beneficial uses that address "hydrology support" and "water quality enhancement." In lieu of numeric criteria for wetlands, an interim option is to propose an expanded narrative criteria statement for wetlands. For example, the state of Wisconsin has adopted such language and two (modified) excerpts are shown below[1]:

- Conditions necessary to support the biological and physical characteristics naturally present in wetlands shall be protected to prevent significant adverse impacts on: water currents, erosion or sedimentation patterns; water temperature variations; the chemical, nutrient and dissolved oxygen regime of the wetland, the movement of aquatic fauna, the pH of the wetland and water levels or elevations.

- Existing habitats and the populations of wetland animals and vegetation shall be maintained by protecting food supplies for fish and wildlife, protecting reproductive and nursery areas, and preventing conditions conductive to the establishment or proliferation of nuisance organisms.

To an extent, the Commission's designation of almost 5,000 acres of wetlands in USFS wilderness as ONRWs addresses step five in EPA's guidance since it means that the state's antidegradation policy applies to these wetlands. Although this designation extends the state's antidegradation policy to all of the recently designated ONRWs, it's unclear what real protection these designations will provide for wetlands since there only appear to be controls associated with CWA §402 and §404 permits. As noted previously, Appendix A specifically states that "These procedures do not apply to nonpoint sources." This exemption is a significant concern for these areas since there are limited point sources and the majority of the contamination in these waters will likely be from NPSs.

These ONRW designations did provide some likely unintended additional protection; the designation of these waters, the U.S. Army Corps of Engineers now require individual fill permits for wetlands rather than allowing coverage under a nation-wide permit. It's unclear how the state's draft Appendix G could be implemented to provide added protection in wetlands or any waters designated as ONRWs given the NPS exemption in Appendix A of the CPP. As noted previously, it is ultimately the Commission's responsibility to ensure that USFS or any other oversight agency and their respective permittees meet the requirements of the state's antidegradation policy.

The Region supports the SWQB's ongoing efforts under the current §104(b) grant and workplan, but strongly encourages the development of appropriate water quality standards specific to wetlands consistent with EPA's Regulation and its guidance. The Region recommends that the state's standards include functional beneficial uses to protect wetlands provide and provide implementation to strengthen the basis for protecting wetlands and mitigating wetland losses.

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1 Wisconsin Department of Natural Resources. Chapter NR 103 Water Quality Standards for Wetlands. Available at: http://water.epa.gov/scitech/swguidance/standards/wqslibrary/wi_index.cfm

### 20.6.4.13 J. Turbidity

During the state's last triennial revision, EPA noted that when this turbidity provision was initially adopted, it was intended to address potential degradation from sources of turbidity expressed as numeric total dissolved solids values. Although the previous amendments were intended to provide some clarity, there are concerns they could unintentionally allow long-term or permanent degradation.

Due to the significant variability inherent to turbidity data and the degree to which natural and anthropogenic sediment loads affect aquatic life are not specifically defined, the Region recommends that NMED continue its efforts to address the effects of imbalances in suspended and bedded sediment on aquatic life uses through the development of narrative or comparative standards. Analyses to identify sediment characteristics that are expected under the range of environmental settings in New Mexico, especially in undisturbed reference streams are important. Through this characterization, it will be possible to identify situations where the expectations are not met, using sediment indicators that show responsiveness to disturbance. Associating biological measures with sediment indicators will further indicate situations where the disturbance causes biological imbalance and habitat degradation. The Region considers it important that we continue working together towards developing benchmarks for bedded sediment by site class to better implement the existing narrative criterion.

### Stream Segment Definition, Assessment and Classification of Perennial, Intermittent and Ephemeral Waters

New Mexico's shift to a presumption of CWA §101(a)(2) uses for all unclassified waters of the state led to the development of §§20.6.4.97-99 NMAC which serve as default use categories for those waters. To manage assessments of these unclassified waters, the state expanded and refined §20.6.4.15 NMAC, develop the *Hydrology Protocol* and other related supporting methodologies. This approach allows NMED to determine the appropriate use designations and protections applicable to assessed waters based on hydrology, and resources to be prioritized for those waters where there is a specific regulatory action or need exits. This process allows surface waters that are determined to be ephemeral based on a UAA to be categorized in §20.6.4.97 NMAC and identified on NMED's website once technically approved by EPA. In the current triennial revision, the Commission is expected to include a number of waters in §20.6.4.97.C NMAC.

Considering the state's overall approach for both classified and unclassified waters, there are some inconsistencies with how these two classes of waters are treated in the state's standards. This inconsistency appears to be an unintended byproduct of the state's efforts to revise and update their standards to reflect new information and approaches.

To understand the inconsistency, it's necessary to first look at how a regulatory segment is defined and how that definition applies to all waters of the state. A "segment" is defined in §20.6.4.7 NMAC as a surface water or reach of a surface water of the state described in §§20.6.4.101-899 NMAC. The definition continues, noting that surface waters within these regulatory segments are defined as having the same uses, similar hydrologic characteristics or

flow regimes and other natural physical, chemical and biological characteristics. In §§20.6.4.101-899 NMAC, regulatory segments boundaries are described based on their hydrology; naming a stream or river mainstem and the "perennial reaches of" or "perennial tributaries to" a named surface water and describing it based on its areal extent. A plain reading here indicates that only segments included in §§20.6.4.101-899 NMAC are waters that are considered to be *regulatory* segments.

In contrast, unclassified surface are generally described in §20.6.4.11 H. NMAC as surface waters *not* identified in §§20.6.4.101- 899 NMAC. This description goes on to say that unclassified waters are also defined based on hydrology, with ephemeral, nonperennial (intermittent) and perennial waters categorized in §§20.6.4.97-99 NMAC respectively. Further, when a stream reach that was included in a classified segment is reassessed and determined to be nonperennial based on a UAA, that stream reach now becomes unclassified, despite having a known areal extent and hydrology.

There are no functional differences between existing classified segments, reassessed classified segments and assessed unclassified waters; all have designated uses based on hydrology and can be defined based on their areal extent. As a result, the Region recommends that the state amend §20.6.4.15.C to explain that assessed unclassified waters only will be retained in §§20.6.4.97-99 NMAC until NMED petitions and the Commission incorporates these waters into classified segments in §§20.6.4.101- 899 NMAC consistent with the river/closed basin structure that currently exists in the standards. Once incorporated into §§20.6.4.101- 899 NMAC these waters should not be retained under §§20.6.4.97-99 NMAC or identified under these sections on the NMED website.

### 20.6.4.16 – Planned use of a Piscicide

The EPA considers the application of a pesticide in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act, including piscicides, to not be a point source pollutant (71 Fed. Reg. 68,483) and does not require a National Pollutant Discharge Elimination System (NPDES) permit. As a result, the Commission adopted §20.6.4.16 NMAC as a way to provide a process for piscicide use to remove unwanted species from various waters within the state. However, the U.S. Sixth Circuit held in *National Cotton Council, et al. v. EPA* (2009) that the application of a pesticide to a water of the U.S. was a pollutant and is subject to NPDES permit requirements. Following that decision, EPA issued a nationwide Pesticide General Permit (PGP) to cover pesticide applications in states, including those without NPDES permit authorization, which includes piscicide application activities conducted by New Mexico Department of Game and Fish (NMGF).

Since that decision, NMDGF has relied upon the nationwide general permit and approval from the Commission when conducting piscicide applications to remove unwanted species from various waters within the state. Given the Sixth Circuit's decision, NMDGF is eligible for and covered under EPA's NPDES PGP, making some of the requirements in 20.6.4.16 NMAC redundant. As a result, the Region recommends that the SWQB consider revisions to that provision to include an exemption for those portions now covered under EPA's NPDES PGP and address those requirements in the state's rules that don't appear to be covered under the PGP.

## 20.6.4.900 – Criteria Applicable to Designated Uses

EPA's CWA §304(a) criteria recommendations provide scientific recommendations to states and authorized tribes in developing new or revised water quality standards. States and authorized tribes have the discretion to adopt EPA's criteria recommendations; EPA's recommendations modified to reflect site-specific conditions; or criteria based on other scientifically defensible methods.[2] In addition to considering adoption of EPA's latest §304(a) criteria recommendations, the Region recommends that New Mexico make revisions to previously disapproved criteria and insure consistency between existing standards and implementation documents.

Aluminum:

In its 2010 triennial revisions, New Mexico adopted revised hardness-dependent equations for aluminum (based on analysis of total recoverable metal. EPA determined that the significant effects that site-specific factors such as pH have on metals and particularly on aluminum toxicity were not fully considered in applying these equations as statewide criteria. The pH significantly influences speciation and/or complexation of aluminum at low pH and should have been considered carefully in determining if these recalculated values would be appropriate when adopting these values as statewide criteria.

Given the significant variability in both pH and hardness in waters in New Mexico, EPA determined that while the hardness-based equations would be protective for waters within the pH range of 6.5 to 9.0, particularly at low hardness levels, they would not be protective for waters below that pH range. Based on these findings, EPA approved the hardness-based equation for aluminum for only those waters of the State where pH is equal to or greater than 6.5, but disapproved these equations in waters where the pH is less than 6.5.

To resolve this disapproval, EPA again recommends that the State adopt language specific to this equation specifying the following:

> "Where pH is equal to or greater than 6.5 in the receiving water after mixing, the chronic hardness-dependent equation will apply. Where pH is 6.5 or less in the receiving water after mixing, either the 87 µg/l chronic total recoverable aluminum criterion or the criterion resulting from the chronic hardness-dependent equation will apply, whichever is more stringent."

In the interim, for waters of the State where pH is 6.5 or less, in the receiving water after mixing, EPA will apply the 304(a) recommended 87 µg/L chronic dissolved aluminum criterion.

Ammonia

[2] EPA's most recent §304(a) national aquatic life criteria recommendations can be found on the following EPA website: http://water.epa.gov/scitech/swguidance/standards/criteria/current/index.cfm.

EPA's re-evaluation of its current aquatic life criteria for ammonia has been published (Federal Register 78:163 (August 22, 2012) p. 52192.). Given that it was just published, Region 6 does not anticipate that the SWQB will be able to develop updates based on the revised criteria in the upcoming triennial revisions. We recommend that the SWQB consider the use of the revised document in future updates of the state's ammonia criteria.

The criteria document and supporting information can be found online at:
http://water.epa.gov/scitech/swguidance/standards/criteria/aqlife/ammonia/index.cfm

Wildlife Habitat – Numeric Criteria

The New Mexico standards current include numeric Wildlife Habitat criteria that are not actual wildlife criteria, but EPA recommended 304(a) aquatic life criteria. While these values are consistent with EPA's recommendations for protection of aquatic life, they were not derived to be protective of wildlife which consumes fish and other aquatic organisms. This consideration is critical for the highly bio-accumulative pollutants such as total mercury, total DDT and metabolites, and total PCBs.

The SWQB has been receptive to working with EPA, particularly our Health and Ecological Criteria Division to developing protective numeric wildlife criteria for a number of these bioaccumulative pollutants. Given the significant data gaps that have been found, EPA understands that it is not possible to develop wildlife criteria for inclusion in the current triennial revision, but encourages the SWQB to continue its efforts to develop numeric wildlife criteria for inclusion in a future interim revision.

Pesticides

EPA would also like to make the SWQB aware that it has updated its human health benchmarks for pesticides (HHBPs). EPA develops HHBPs for use by states and water systems in determining whether the detection of a pesticide in drinking water or source waters for drinking water may indicate a potential health risk. HHBPs are levels of certain pesticides in water at or below which health effects are not anticipated from one-day or lifetime exposures. EPA has not issued drinking water health advisories or set enforceable federal drinking water standards for any of these pesticides.

EPA first published in 2012 benchmarks for non-carcinogenic effects of 352 pesticides that are currently registered to be used on food crops. In the 2013 update, EPA added 11 new benchmarks for a total of 363 HHBPs. In addition, EPA has revised 10 of the HHBPs published in 2012 to reflect new scientific information and has added cancer effects benchmarks for 40 of the pesticides.

Recreation Criteria

The recreational water quality criteria EPA is recommending were developed based on a review of historic studies and more recent scientific information including the National Epidemiological and Environmental Assessment of Recreational water studies at U.S. beaches in 2003, 2004,

2005, 2007, and 2009. Those studies enrolled 54,250 participants, encompassed nine locations, and collected and analyzed numerous samples from a combination of fresh, marine, tropical, and temperate waters. The resulting criteria:

- Consist of both a geometric mean and statistical threshold value.
- Now comprise a magnitude, duration, and frequency.
- Allow states may choose from two different sets of recommended criteria values to protect primary contact recreation waters.
- The criteria recommendations for fresh and marine waters are based on the same illness rate.
- The criteria no longer refer to different use intensities.
- States may take advantage of newly-developed rapid test (qPCR) methods in adopting WQS.
- States may now use Beach Action Values in their beach notification programs.

The 2012 RWQC document, support documents, and the Federal Register Notice, in the docket (Docket identification No. EPA-HQ-OW-2011-0466) which can be accessed via EPA's website at:
http://water.epa.gov/scitech/swguidance/standards/criteria/health/recreation/index.cfm

Bacteria

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

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

Temperature

Delta Temperature (Delta T)

Generally temperature is a low impact permit problem in New Mexico. There are very few NPDES dischargers that have a thermal component and those known dischargers have not caused stream impairments for temperature. However, there are a number of stream segments that have 303(d) listings for temperature, most of which have no overstory, resulting excessive thermal loading but not from actual thermal dischargers. Existing permitted dischargers do not appear to cause or contribute to WQS exceedances.

The temperature provision in §20.6.4.13 I. NMAC requires that the maximum temperatures specified in §§20.6.4.97 through 20.6.4.900 NMAC not increase by more than 2.7°C (5°F) in a stream, or more than 1.7°C (3°F) in a lake or reservoir. The specified temperature plus this 2.7°C or 1.7°C increase (defined here as Delta T) is not an end-of-pipe limit for dischargers; it is the result of mass balance mixing low flow and effluent flow with each having a thermal mass that gives a final instream criterion. The provision is vague in that it does not state what time frame is for the Delta T has to be met. Without a time frame, the value cannot be used to limit temperature increases in permits. Since the Region cannot establish a water quality standard or implementation policy through the permitting process, we suggest the state consider developing specific guidance on this time frame or as an example, revise §20.6.4.13 I. NMAC to read: "…by no more than 2.7 deg C (5 deg F) in a stream, or more than1.7 deg C (3 deg F) in a lake or reservoir over a 30-day calendar period."

To address thermal pollutants, the use of the historical upper 15% upper bound of seasonal temperatures is the relative point for Delta T. To use this value means allowing a compliance schedule to obtain the seasonal temperature (monthly) over a two-year period from a point upstream of the point of discharge. The Region suggests that the state consider developing implementation that reads as: "The 30-day calendar period would be measured against a minimum 2-year data set using the upper 15% historical monthly data set collected from an upstream unaffected point." This would allow monthly permit limits to be established for thermal dischargers. Any shorter than monthly would be challenging since the permit limit table would have 52 lines of limits with an unsure environmental benefit.

Temperature 6T3 and 4T3

The 6T3 and 4T3 factors as defined in §20.6.4.7 A.(1) and (2) NMAC establish not to be exceeded instream criteria after mixing (assuming there is a low flow). The way these criteria are defined using the 6T3 factor as an example, the effluent *after* mixing with the stream cannot exceed 20°C (68°F) over any 6 consecutive hours in a rolling 24 hour period for more than 3 consecutive days. This is not an end-of-pipe limit, since it does represent the instream criterion that is the mass balance of mixed low flow with effluent flow. Determining compliance with any temperature criteria, thermal discharges requires continuous recording. The problem is that the definition for the 6T3 factor mixes time frames. In a plain reading, "3 consecutive days" means day one (1) to day three (3) and would not reset if the temperature exceeds 20°C (68°F) in any one 6-hour period. By applying this 6-hour limitation over any one 24-hour period, it becomes a rolling 72-hour time frame, which effectively resets the clock, allowing exceedences of the criterion.

Sections 20.6.4.7 A.(1) and (2) NMAC appear to provide reasonable protection for aquatic life, but are difficult to implement from a permitting perspective. The standard or be misused or leave discharges unclear as to what is necessary to meet the standard. A discharger could discharge a temperature greater than 20°C (68°F), again based on the critical dilution, for just less than 6 hours every day, being mindful that this temperature does not exceed the delta T. The definition does not allow the discharger to have any idea what temperature should be in an end-of-pipe discharge to meet a criteria that is rolling simultaneously forward and backwards. The shift in time frame would also mean that an EPA and/or NMED inspector would not be able to tell if an end-of-pipe temperature discharge measured at any point in the day is in compliance. It would be difficult to determine a limit at the max 6T3 allowing for mixing with low flow over the long term; even though that would allow higher, short duration thermal loads to be greater as long as the average temperature stays within the 6T3 moving forward and back. Although the Region recognizes that limited fisheries information make this difficult to determine because it is likely sight specific, to address this permit implementation problem, we suggest that the state take a more simplistic approach, using a maximum temperature (Max T) and one value, or a seasonal approach compatible with the aquatic resource. As a simplistic example, use a breeding season defined as Months V, X, Y, and Z, Max T 20°C (68°F), other months Max T 20.55 (69°F). The intent is to make this easier to implement and enforce, while providing the same environmental benefit.

## Safe Drinking Water Act

### Ground and Source Water Protection

The Region would like to encourage NMED to review their standards for the constituents that may be contained in flow-back and produced waters from the development of oil and gas resources in unconventional formations. Specifically, our concern is that discharges of these waters in other states have caused impacts due to high chlorides, bromides, NORM, and TDS. There may also be concerns about pH, biocides, scale inhibitors, oil and grease, etc. Some states have found their lack of standards for some of these constituents have hindered their ability to prevent discharges through treatment plants that have no permit requirements to protect streams and downstream drinking water systems.