

**Response to Comments on the January 2011 Draft Update of  
New Mexico’s Water Quality Management Plan and Continuing Planning Process**  
Prepared by the NMED Surface Water Quality Bureau  
April 2011

In January of 2011, the Surface Water Quality Bureau (SWQB) released for public comment a draft consolidation and update of New Mexico’s Water Quality Management Plan and Continuing Planning Process. The comment period closed on March 11, 2011. SWQB received seven comment sets as listed below.

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**Full Comment Sets - Attached**



**Morgan Nelson, Roswell**

In your planning I find no consideration for saltwater degradation in water quality management. While there is a most flagrant degradation of water that occurs here in the Pecos Valley. Good sweet water is made into near brine. I am referring to the Pecos River Settlement where the state of New Mexico sends potable usable water to the state of Texas and in the process the water picks up so much salt that it is unusable. This is unacceptable in this arid West where water is such a precious and limited resource. [See Mr. Nelson's letter for the full text of his comments.]

**SWQB Response:**

Comment noted. The terms of the referenced settlement are dictated by an amended decree entered by the U.S. Supreme Court in 1988, and the WQCC has no jurisdiction to interfere with the water deliveries to Texas.

## **Elephant Butte Irrigation District (EBID)**

### **EBID Comment 1:**

The DRAFT document integrates two prior documents and adds considerable new content. In our opinion, this is a commendable and noteworthy effort. In general instead of using the traditional strikeout (for text deletion), normal font (for unchanged text), and underline (for proposed changes) the authors attempt to summarize the final product by using ambiguous terms such as “Significant Changes” and “Minor Changes.” Besides ambiguity, this terminology predisposes the reader to conclude that changes are important or not important. This decision should be made by the reader, without biasing his/her opinion during the normal document assessment. It is also impossible to figure out which changes were made without comparing the three documents (WQMP, CPP, and DRAFT WQMP/ CPP) simultaneously and side-by-side. Recommendation: The DRAFT document should be revised so that the ambiguous and predisposed terms are eliminated and the conventional editorial methodology is employed, instead.

### **SWQB Response:**

SWQB agrees that underline/strikeout formatting typically makes it easier to determine what changes are proposed in a document. However, doing so in this case would actually make it more difficult to identify the substantive changes because the draft integrates two documents with different formats, content and organization. Such an effort would present one of the documents as completely struck through and insert its content throughout the other document. This would not illuminate new or changed content for the reader. Nevertheless, SWQB understands the commenter’s preference to view and consider the changes directly rather than rely on SWQB’s characterization of the changes as significant or minor. For this reason the draft document does identify the location of the subject matter in the previous WQMP and CPP. SWQB has rechecked these references and made a few corrections.

### **EBID Comment 2:**

The terms “Waters of the State” or “Waters of the state” are used throughout the document. It is important to notice that the definition of these terms is not given in the document. Since compliance with the proposed DRAFT document hinges on the current definition of Waters of the State, this is subject to changes within the original source’s definition. Thus, compliance with the proposed DRAFT document represents a “moving target” whose status depends on a completely different reference. Recommendations: Use the term “Waters of the State” instead of “Waters of the state” and define it within the document. Two definitions may be needed if groundwater and surface water are considered as different entities.

### **SWQB Response:**

The requested definitions are established in legislation and rules, not this document. In updating the WQMP/ CPP, SWQB has chosen to reference these documents, avoiding the need repeat information or update the WQMP/ CPP whenever the underlying legislation or rules are changed. This approach also avoids the confusion that could result if the WQMP/ CPP were not updated in

a timely fashion. Because the WQMP/PPP describes governmental roles and processes, rather than obligations of members of the public, SWQB does not agree that there is a risk of confusion about compliance. For these reasons, SWQB recommends no change.

**EBID Comment 3:**

Page v. A completely new “Wetland Programs” section is added to the DRAFT.

Recommendations: Considering the importance and newness of the added “Wetland Programs” section, we believe that its introduction to the text should be mentioned as a seventh primary goal on page v.

**SWQB Response:**

The wetlands program is listed in the second primary goal to “incorporate changes and new developments that have occurred over the last several years.” While it is a new element in the WQMP, the program has been ongoing for some time. It is similar to the Underground Injection Control regulations, also listed under the second goal, which have been in place for several years but are new to the WQMP. SWQB recommends no change.

**EBID Comment 4:**

Page II-3. Nonpoint pollution BMPs are voluntary, as mentioned elsewhere (page IV-3) in the text. However, this is not mentioned in this section. Recommendation: change the text from “Implementation of water quality standards occurs through controls on point source pollutant discharges and through best management practices applied to nonpoint sources of pollution...” to “Implementation of water quality standards occurs through controls on point source pollutant discharges and through voluntary best management practices applied to nonpoint sources of pollution...”

**SWQB Response:**

The *Nonpoint Source Management Program* adopted by the WQCC relies on a voluntary approach to addressing nonpoint source pollution. However, other entities, such as land management agencies or funding sources, may impose nonpoint source BMPs. Whether voluntary or required by another entity, such BMPs help to implement the water quality standards. SWQB recommends no change.

**EBID Comment 5:**

The authors should be commended for providing an accelerated methodology for distinguishing among ephemeral, intermittent and perennial streams. In section 1 on UAA we notice that a use may not be removed or changed unless any of six factors are met. The terms “substantial and widespread economic and social impact” are used in factor number 6. These two adjectives are ambiguous and mostly unquantifiable. Recommendation: We suggest rewording of this section to more accurately represent desired outcome.

**SWQB Response:**

The wording of the six UAA factors cannot be changed in the WQMP/PPP because they are taken verbatim from the federal regulation at 40 CFR 131.10(g). SWQB recommends against attempting to better define the terms in “substantial and widespread economic and social impact” because that factor has no relationship to the focus of this section, which is use of the *Hydrology Protocol*.

**EBID Comment 6:**

Pages II-6, II-9. We favor the concept of decision trees, which simplify interpretation of otherwise complex guidelines. However, the two decision trees are drawn in an unorthodox manner that obfuscates the decision process. Strictly speaking, the two DRAFT decision trees are not such, since the user is never asked to make a single decision. ... Recommendation: Correct all “decision trees” to make them functional. (See EBID’s comments for full discussion of this recommendation.)

**SWQB Response:**

The comment refers to Figures II-1 and II-2 concerning use of the *Hydrology Protocol* and UAA processes. SWQB has changed the titles of these figures to indicate that they are flow charts instead of decision trees. In addition, SWQB has added an explanation to the title of Figure II-1 and revised the discussion at the beginning of Section II.C.

**EBID Comment 7:**

Page III-2. Section C, on Reporting is clear on when and how a water body should be listed under section 303(d). However, no method is provided, to our knowledge, on how to delist a water body that has met criteria after implementing WLA and LA. Recommendation: Methodology for delisting 303(d) water bodies should be included. This methodology should indicate how long the applicant should wait after the water body has met expectations to delist it from the 303(d) list.

**SWQB Response:**

Following EPA guidance SWQB uses only data collected during the last five years for assessment. Therefore, in order to de-list a stream, data from the last five years must show no impairment following SWQB’s assessment protocols. The following sentence has been added to this section, and further details are available in the assessment protocols.

*If all data collected during the last five years indicate that a stream segment is meeting applicable water quality standards for which it was previously included on the 303(d) list, the water body would be delisted, i.e., removed from the 303(d) list.*

**EBID Comment 8:**

Page IV-3. It is unclear from section B what will be the outcome of the program if the TMDLs cannot be met in a water body after all WLAs are reduced to the minimum practical level.

Recommendation: Clarify course of action should TMDLs fail after all WLAs are reduced to or below their enforceable limit.

**SWQB Response:**

SWQB drafts TMDLs to meet water quality standards and allocates this load to permitted discharges (WLA) and nonpoint sources (LA). If water quality standards are still not being achieved, even though permitted discharges are achieving their WLAs, then the problem is being caused by nonpoint sources, and must be addressed by BMPs and other actions targeting nonpoint sources. In this situation SWQB would not alter or remove the WLA in a TMDL. If the permittee is meeting the WLA, either at the time of TMDL development or afterwards, the WLA is considered protective and remains in place. A statement about the revision of existing TMDLs has been added to the end of Section IV.C – see response to EBID Comment 7.

**EBID Comment 9:**

Page V-1. According to this section’s significant changes “drops fecal coliform bacteria effluent limitation because water quality standards now include bacterial criteria for all surface waters.” It is unclear to us why this limitation has been dropped. Recommendation: Please clarify.

**SWQB Response:**

The 2005 triennial review amendments to the water quality standards replaced fecal coliform with *E. coli* criteria, based on EPA-sponsored research that *E. coli* is a better indicator of the risk to human health. Effluent limitations for *E. coli* are now standard in all NPDES permits for domestic wastewater treatment plants. Therefore, the fecal coliform limitation in the WQMP is no longer needed. The footnote on this page has been changed as follows to provide more clarity:

*... the previously included fecal coliform limitation of 500 cfu/100 mL was dropped because the water quality standards now apply E. coli bacterial criteria to all waters.*

**EBID Comment 10:**

Page VII-1. According to the classification, storm water runoff is considered a nonpoint pollution source. We approve of this position. No action requested.

**SWQB Response:**

The commenter refers to the listing of “urban storm water runoff” as a source of nonpoint pollution. The text does not state that all storm water runoff – or even all urban storm water runoff - is considered a nonpoint source. Some sources of storm water runoff must obtain coverage as a point source under an NPDES permit.

**EBID Comment 11:**

Page VII-2. According to Section A, “A number of the federal agencies involved have agreed, formally or informally, to ensure ... enforceable provisions for compliance with water quality

standards.” The conjoined terms “formally or informally” are not only ambiguous but they encompass every possible option. Recommendation: List participating federal agencies by name and their level of commitment.

**SWQB Response:**

More detail on the role of federal agencies is provided in the [Nonpoint Source Management Program](#) (Section 6.2), which has been approved by the WQCC and EPA and is incorporated into the WQMP/CPP by reference.

**EBID Comment 12:**

Page VII-2. We question why the Department of Game and Fish is not listed among the participants, considering the importance of surface water quality to this agency. No action required.

**SWQB Response:**

The role of the Department of Game and Fish is described in the *Nonpoint Source Management Program* (p. 6-20 and Appendix E), which is incorporated into the WQMP/CPP by reference.

**EBID Comment 13:**

Page XII-1. The groundwater pollution prevention program, according to section A, also addresses unauthorized discharges such as spills... Considering that most spills begin at or near the ground or water surface, we believe that the SWQB should be involved during such events. No action required.

**SWQB Response:**

SWQB is also involved in spill response. The *Ground and Surface Water Regulations* require anyone who causes an unauthorized discharge to report to and take corrective actions approved by the Ground Water Quality Bureau or other appropriate constituent agency (20.6.2.1203 NMAC). If a spill that could affect surface water is reported to the Ground Water Quality Bureau or to NMED’s environmental notification system (see [http://nmenv-it.nmenv.state.nm.us/EnvComp/Incident/incident\\_hdr\\_list.php](http://nmenv-it.nmenv.state.nm.us/EnvComp/Incident/incident_hdr_list.php)), SWQB is subsequently notified and responds as appropriate. In addition, NPDES permits in NM contain a general condition requiring notification of EPA and SWQB in the case of permit noncompliance that would endanger health or the environment.

**EBID Comment 14:**

Page XV-1. According to the description, this section was not included in either WQMP or CPP. Considering the importance of wetlands and implications to land and water users, it is critical that a clear definition for “Waters of the State” is provided within the text. No action required if this concern is addressed before.



**SWQB Response:**

Wetlands are generally considered surface waters of the state per the definition of “water” in the WQA and the definition of “surface waters of the state” in 20.6.4.7 NMAC. The current definition of “surface waters of the state” in 20.6.4.7 NMAC is as follows:

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

It is an EPA priority that states develop programs to protect wetlands, including water quality standards specific to wetlands. Funding has become available to support this effort since the last comprehensive update of the WQMP, and a condition of the funding is that the program be included in the WQMP.

## New Mexico Department of Agriculture (NMDA)

### **NMDA Comment 1:**

NMDA appreciates the specific notations by NMED in each section that describe the previous locations for Draft Update elements within the existing WQMP and the CPP documents but found it arduous to analyze the changes without strike-out versions similar to those found in legislative proposals and amendments. It is important to review elements that have been added or omitted, which may not be obvious as either significant or minor changes. Further, to define significant versus minor changes may be subjective depending on an organization's standpoint and constituent/client base.

### **SWQB Response:**

See SWQB Response to EBID Comment 1.

### **NMDA Comment 2:**

NMDA hopes that an update will be developed in response to the 2010 population census, as stated in the Introduction, Section D of the Draft Update.

### **SWQB Response:**

This section of the WQMP/CPP explains that “updates are developed as needed” in response to a variety of new circumstances including population growth. NMDA’s comment does not recommend any specific update that is needed in response to the 2010 census. Such an update is not currently planned. However, elements of the WQMP/CPP in its current form have enough flexibility to adapt to changing conditions, e.g., wastewater infrastructure funding, and NPDES permitting.

### **NMDA Comment 3:**

The second primary goal stated is to incorporate changes and new developments that have occurred over the last several years and lists such examples. It is unclear why these new developments, such as amended water quality standards, have not been incorporated into the WQMP once they have gone through the required public process and approved by the appropriate parties (i.e., the Water Quality Control Commission (WQCC) or the U.S. Environmental Protection Agency). NMDA understands the public process involved for updating the documents; but as the name and intention implies, a continuous process should be utilized in order to maintain the most current information for users of the *WQMP/CPP*. It seems as though previously approved elements should be incorporated into the *WQMP/CPP* to improve and streamline the availability of information. Having said that, it is stated on page IV-4 that approved Total Maximum Daily Loads (TMDLs) will be updated within Appendix B of the *WQMP/CPP* as they are approved. In the current WQMP (last amended May 13, 2003), the list of TMDLs has not been continually updated and contains only those prior to the 2003 amendment.

**SWQB Response:**

This update incorporates several documents by reference, such as the water quality standards and the *Nonpoint Source Management Program*. This approach allows the WQMP/CPP to remain current for a longer time because it will not become out-of-date upon the approval of changes in a referenced document. In addition, the pages in the revised WQMP/CPP are numbered by sections, and the document will be posted on SWQB's website in sections so that an update to only one section or appendix can be more easily accommodated.

Numerous TMDLs have been approved since the last comprehensive update of the WQMP. The current list is maintained on SWQB's website, and it is presented in Appendix B of the draft update (if additional TMDLs are approved before the WQMP/CPP is approved, the list will be updated). In addition, the text in Section IV.E (Completed TMDLs) now indicates that the most current list can be found on the website.

**NMDA Comment 4:**

In the Introduction, Section A, historical perspective on the evolution of the WQMP has been omitted. One consideration by NMED could be to condense this element and include "big picture" points such as shifts in national programs and how they affect management of New Mexico water quality. Historical perspectives can be useful to those who are entering the workforce and trying to understand water quality management issues in the state. For instance, a timeline of applicable Clean Water Act (CWA) milestones might be a valuable element to those who consult and utilize the Draft Update, as well as a concise summary of the history and content of WQMP and CPP updates.

**SWQB Response:**

The brief "Historical Perspective" section in the 2003 WQMP notes that the first predecessor of the Clean Water Act was passed in 1948. While the history of federal and state water quality legislation is indeed interesting, summarizing more than 50 years of major milestones in the development of a complex statutory framework is no small task. It is more important for this document to clearly lay out the current legal requirements with respect to water quality management in New Mexico. The draft WQMP/CPP makes every effort to do this – the table presenting federal WQMP and CPP requirements in Section A of the Introduction is a one example.

SWQB carried forward the goals and dates of previous updates as presented in the 2003 WQMP and 2004 CPP, while omitting details that are no longer important; e.g., the half-page explanation of how to use the new feature of hyperlinks.

**NMDA Comment 5:**

On page I-7, the New Mexico Water Cabinet is referenced by Executive Order No. 2007-050 and participating agencies are listed; but it is an incomplete list. On page 2 of this Executive Order, the membership of the Water Cabinet is listed in total. The Draft Update should utilize the listed membership in its entirety, which it currently does not do.

**SWQB Response:**

The members of the Water Cabinet have been corrected.

**NMDA Comment 6:**

On page II-2, within the Antidegradation Policy paragraph, the word "and" should be removed between the words "shellfish" and "wildlife."

**SWQB Response:**

SWQB recommends no change. The referenced sentence states, "Water quality that exceeds the levels necessary to support the propagation of fish, shellfish, and wildlife, and recreation in and on the water is to be maintained ..." Although the suggested change has grammatical merit, this sentence and its punctuation are taken verbatim from the water quality standards (Subsection A of 20.6.4.8 NMAC). The same construction is found in the federal water quality standards regulation (40 CFR 131.12(a)(2)).

**NMDA Comment 7:**

On page II-4, Soil and Water Conservation Districts (SWCDs) are listed as an entity that can provide information and apply for assistance with planning new nonpoint source discharges. Has this statement been vetted by the Soil and Water Conservation Commission (SWCC)? This reference could be elaborated on by consulting the SWCC regarding the services that the SWCDs provide. This statement continues with "and other entities"; can NMED provide additional examples of such entities?

**SWQB Response:**

This reference to SWCDs is carried over from the current 2004 CPP (p. 25). That document was approved by the WQCC, which includes representation from the Soil and Water Conservation Commission. The statement is still current. More detail on the services provided by SWCDs is contained in the [Nonpoint Source Management Program](#) (pp. 6-22 and 23), last updated by the WQCC in 2009 and incorporated by reference into the WQMP/CPP. As to other entities, the Natural Resources Conservation Service of the U.S. Department of Agriculture is the primary additional entity providing information and assistance. The sentence has been revised as follows:

*Organizations or individuals planning new activities that may increase nonpoint source discharges pollution loading can obtain guidance and information and apply for assistance from NMED, USDA, and Soil and Water Conservation Districts ~~and other entities to enable them to adopt effective BMPs, to prevent nonpoint source pollution, and follow that guidance~~ so that standards, including the antidegradation policy, will continue to be met.*

**NMDA Comment 8:**

On page III-2 in the second paragraph, the Draft Update states, "On the basis of available data, SWQB identifies those surface water segments not meeting water quality standards." This statement implies that the data collection performed by the Surface Water Quality Bureau (SWQB) does not result in sufficient data for the determination of water quality impairments. Isn't SWQB data collection, for instance in the eight year rotation cycle, designed to be sufficient for such a determination? While it is valuable to solicit additional data, it should not be a method utilized to obtain a complete data set.

**SWQB Response:**

The goal of SWQB's data collection is, in part, to provide sufficient data for assessment. This is stated on the previous page in the draft update under the header Monitoring: *"The goal of the monitoring program is to provide information to assess the quality of surface waters and direct water quality management activities."* The point of the quoted paragraph is to explain that SWQB considers all data of sufficient quality equally in the assessment process. Data submissions are a valuable part of the process as they provide recent data from areas of the state where SWQB currently may not be sampling due to the 8-year rotation schedule. SWQB recommends no change.

**NMDA Comment 9:**

On page III-2 in the bulleted list of assessment activities that support water quality management processes, the fourth bullet refers to the review of actions which require an antidegradation analysis. What specific actions require such an analysis? This should be clarified within this statement.

**SWQB Response:**

SWQB has replaced the text of the bullet with following:

*Conducting an antidegradation review of proposed new or increased permitted discharges as prescribed in the Antidegradation Policy Implementation Procedure, Appendix A of this WQMP/PPP.*

**NMDA Comment 10:**

On page IV-4, the first paragraph in Section D should be condensed to provide a more concise background on how NMED agreed to meet the terms of the settlement agreement, which provides a schedule by which New Mexico will address the development and prioritization of TMDLs. References to the legal history do not seem relevant to this element. The reference to a "final TMDL" in the last sentence does not contain any context; the preceding language only refers to TMDLs in a broad sense. The important point here is that the SWQB follows the terms of a settlement agreement and accompanying Memorandum of Understanding.

### **SWQB Response:**

This paragraph in the draft update carries forward the existing language in the 2004 WQMP (p. 24), and simply adds new information at the end. SWQB agrees, however, that this historical information is no longer needed in the document. SWQB has revised this section on prioritizing the development of TMDLs as follows:

*~~From 1997 to 2007, the development of TMDLs was prioritized according to the terms and schedule set forth in a consent decree and settlement agreement negotiated between EPA and Forest Guardians/Southwest Environmental Center. The consent decree TMDLs have been completed, and the consent decree was dismissed in 2009. In 1996, Forest Guardians and Southwest Environmental Center jointly filed a lawsuit against EPA alleging that adequate TMDLs had not been developed by the State as required under §303 of the CWA. The State of NM was not a litigant in this suit. In 1997, EPA and plaintiffs negotiated a consent decree and settlement agreement avoiding formal litigation. The consent decree and the settlement agreement combined set forth a 20-year schedule to address TMDLs for many stream segments in the State. EPA and NMED signed a Memorandum of Understanding (MOU) outlining tasks the State will complete to meet the terms of the settlement agreement. NMED received EPA approval of the final TMDL under the Consent Decree in 2007 and the Consent Decree was officially dismissed by the Department of Justice on April 21, 2009.~~*

*SWQB continues to develop TMDLs following prioritize TMDL development considering the schedule and remaining stream segments identified terms established in the settlement agreement and the MOU between NMED and EPA. Following completion of the required schedule, NMED will prioritize TMDL development based on the results of ongoing monitoring and assessment. Additionally, NMED will develop TMDLs as specified in negotiated CWA § Section 106 and § Section 604(b) grant commitments. The State may also act independently of the aforementioned agreements to adopt TMDLs as it may find necessary and appropriate. TMDLs may be reviewed and updated in response to changed conditions or new data.*

### **NMDA Comment 11:**

In Chapter IV of the Draft Update, "TMDLs" should contain some language describing the process by which TMDLs are fulfilled through the implementation of "Best Management Practices" and effectiveness monitoring. This type of information is described within individual TMDLs, but this chapter could be improved with an explanation as to how water bodies evolve from a water quality limited status to meeting standards.

### **SWQB Response:**

Section IV.B.2 refers to Section VII and the *Nonpoint Source Management Program*, which is incorporated into the WQMP/PPP by reference and details the BMPs and effectiveness monitoring mentioned in the comment. SWQB recommends no change.

**NMDA Comment 12:**

On page V-I, in the first paragraph, the words "in Dallas" could be removed.

**SWQB Response:**

SWQB recommends no change. Noting the location emphasizes the fact that the permitting authority for New Mexico is not located in New Mexico.

**NMDA Comment 13:**

On page V-3, regarding the inclusion of language concerning state certification of NPDES permits, this language may need to be revised based on WQCC determination. This comment also applies to page X-I referencing state certification for dredge and fill permits.

**SWQB Response:**

The WQCC approved the certification regulations at its meeting on April 5, 2011. The referenced paragraphs correctly characterize the content of the approved regulations, so no changes are needed.

**NMDA Comment 14:**

The bulleted list starting on page VII-3 would be improved if the milestones were listed in chronological order. A reference to the last date of revision (2009) to the Nonpoint Source Management Plan should be included with the last sentence of this section.

**SWQB Response:**

The bulleted milestones are grouped thematically and then chronologically. The first three show how the nine planning elements will be addressed in more and more watershed plans over time, while the last two pledge water quality improvements in an increasing number of priority watersheds over time. Because the specific objectives and milestones are taken from the 2009 NPSMP, SWQB has added the suggested date.

**NMDA Comment 15:**

NMDA would like to encourage a careful review by the WQCC on the WQMP/PPP, especially on the sections that are new (Rural Infrastructure Revolving Loan Program, Special Appropriations Program, Uniform Funding Application, Process for CWA Section 401 Certification of Dredge and Fill Permits, and Wetlands Program). Further, the public participation chapter should be carefully reviewed by the WQCC because of its primary role in fulfilling public participation requirements.

**SWQB Response:** Comment noted.

## **NMDA Comments – various, editorial**

Contained in the preface is a list of the primary goals for the Draft Update. The first goal stated is to establish the process for updating the consolidated document. This process is included in the Introduction, Section D; but the Table of Contents should read "Process for Updating and Maintaining the *WQMP/ CPP*" as it is titled in Section D.

The Table of Contents should have a line specifying the list found on page iv, "Documents Incorporated by Reference into this *WQMP/ CPP*."

On page I-11, a reference is made to documents that relate to elements of the *WQMP/ CPP*; a page number should be inserted to complete the reference.

On page II-I of the Draft Update, within the reference to the objective of water quality standards, it should read "New Mexico" instead of "Mexico" on line 4 of the reference paragraph in italics.

On page VI -1, the first sentence of Section C should read "The New Mexico Rural Infrastructure Act ... " to clarify its status. The last sentence of this section needs a period at the end.

Beginning on page IV-I, it is noticed that both "nonpoint" and "non-point" are used; as minor a point as this is, it should be consistent throughout the document.

There are several grammatical and punctuation edits needed within Chapter VII - Nonpoint Source Management and Control.

The Final Draft Hydrology Protocol should have an "Appendix C" label.

**SWQB Response:** SWQB has made the suggested corrections.



## Los Alamos National Laboratory (LANL)

### **LANL Comment 1:**

#### II. Surface Water Quality Standards - 2. Water Quality Limited Segments (p. II-4)

A significant omission from the WQMP/CPP is the lack of discussion about site-specific criteria. 20.6.4.10.D & E NMAC, adopted in 2010, specifies how the WQCC will adopt site-specific criteria for surface water based on local physical, biological, or chemical factors. ... Establishing site-specific criteria could have substantial ramifications on regulatory compliance status, degree of impairment, and TMDLs. Thus, the WQMP/CPP should frame how New Mexico's water quality management system will proceed with such petitions because of the potential importance of site-specific criteria. [See p. 1 of LANL's comments for the full discussion.]

### **SWQB Response:**

SWQB recommends no change. The WQMP/CPP incorporates by reference the water quality standards, including any new provisions. It is not necessary or desirable to repeat the content of incorporated documents. Furthermore, site-specific criteria are implemented in the same manner as any other water quality criteria and have no special effect on TMDLs, compliance, or other elements of the water quality management system. Likewise, a petition proposing site-specific criteria would be handled the same as any other proposed water quality standards change.

### **LANL Comment 2:**

#### II. Surface Water Quality Standards - 2. Water Quality Limited Segments (p. II-4)

... However, we believe that an expedited process is needed for establishing site-specific criteria based on natural background. The expedited process would be used only if natural background *clearly* was the cause of elevated constituent concentrations. [See p. 2 of LANL's comments for the full discussion of the types of background determinations recommended for an expedited process.]

### **SWQB Response:**

SWQB recommends no change. The water quality standards do not provide for an expedited process to approve site-specific criteria based on natural background.

### **LANL Comment 3:**

#### Hydrology Protocol (Appendix C)

Although we support the NMED's attempt to simplify the regulatory process, we remain concerned that numerical scores obtained from the *Hydrology Protocol* will typically "trump" professional judgment. It is thus very important that the Protocol indeed be a living document as proposed, with periodic revision. It would be helpful to know how often the Protocol will be updated or reviewed. The need to review the adequacy of each attribute used in the Protocol is amplified because of the skepticism expressed by many reviewers of some of the attributes, such as entrenchment.

**SWQB Response:**

SWQB agrees that the *Hydrology Protocol* should be and is a “living document”. SWQB welcomes comments, questions or suggestions to improve the protocol at any time. SWQB is committed to proposing revisions when needed for the WQCC’s consideration. The last paragraph in the *Hydrology Protocol* as well as Appendix 1 – Development of the Hydrology Protocol – have been revised to be consistent with this commitment:

*In the event that new data indicate the threshold values used in this protocol are not appropriate and/or if new standards are adopted, SWQB will review the protocol, the related threshold values and differentiating scores. Revisions to the protocol will be proposed to the WQCC as needed in accordance with the process for updating the Water Quality Management Plan/Continuing Planning Process.*

**LANL Comment 4:**

The *Hydrology Protocol* attributes for scoring were determined through an analysis of variance of NMED data collected at drainages around the State. Text should be added to the *WQMP/CP* that describes how NMED pre-determined stream flow status for each segment. Also, for transparency, the actual scores obtained at each of the sites should be made available, along with a few examples of a fully-completed assessment. These may be helpful to researchers attempting to evaluate a stream segment located near those earlier scored by NMED.

**SWQB Response:**

Tables 1 and 2 in Appendix 1 of the *Hydrology Protocol* have been amended to include how the “water body type” of a stream was determined for SWQB’s initial site selection in 2008.

Data used in the development of this protocol are available upon request by contacting SWQB at 505-827-0187 or via e-mail (see <http://www.nmenv.state.nm.us/swqb/staff/>).

**LANL Comment 5:****IV. Total Maximum Daily Loads**

Text should be added to this discussion that describes how adoption of site-specific criteria will impact the TMDL process. If a TMDL was developed to achieve the national default criteria, would the TMDL be revised (or even withdrawn) if the segment is no longer water quality limited based on new site-specific criteria?

**SWQB Response:**

A TMDL is developed using the most recently approved water quality standards. When a water body is found to no longer be impaired due to a change in a water quality standard, the water body would be delisted. The TMDL would then be considered unnecessary and the WQMP could be updated accordingly. However, in the case where the water body is still impaired for the particular pollutant, the TMDL would be revised to reflect the new water quality standard during the next TMDL development cycle.

A statement about the revision of existing TMDLs has been added to the end of Section IV.C as follows (see also EBID Comment 7 and response):

*TMDLs may be revised as necessary, following the process outlined above, based on changes to water quality standards or other factors influencing the TMDL calculation or distribution between the WLA and LA in the TMDL. TMDLs may be removed from the WQMP with WQCC approval if the water body is no longer impaired.*

**LANL Comment 6:**

Page I-4. Has agency name been updated to "NM Bureau of Geology and Mineral Resources?"

**SWQB Response:** The name has been corrected.

## **Freeport-McMoRan Copper & Gold, Inc. (FCX)**

### **FCX Comment 1:**

FCX supports the SWQB creating a defensible standard for any knowledgeable party to use in classifying surface water of the State as a way to stream-line use designations across all types of surface water in the State of New Mexico. There are potentially thousands of situations that require use designation of one type or another, and FCX appreciates an attempt to streamline a process that could be time-consuming and expensive for stakeholders.

**SWQB Response:** Comment noted.

### **FCX Comment 2:**

FCX recognizes the difficult task that the SWQB is faced with when attempting to draft a protocol describing appropriate indicators and scoring criteria applicable state-wide across a variety of different geologic, hydrologic and geomorphic settings. In order to gain practical understanding of the use of the HP, FCX applied the HP to a number of candidate water bodies which include steep, physically confined, high desert arroyos subject to short-lived high energy flows driven by seasonal monsoonal precipitation events. Through this effort, FCX identified some potential for misclassification based on the current indicator-specific scoring criteria. Although FCX understands that it is impossible to develop a protocol which applies perfectly to every situation, there may be opportunities to improve the broad applicability of the protocol with some relatively minor modifications to language associated with scoring for a handful of indicators. More specifically, indicators and scoring criteria associated with 1.6 (Absence of Rooted Upland Plants in Channel), 1.7 (Sinuosity) and 1.8 (Entrenchment Ratio) have the potential, under certain circumstances, to result in scores which fail to appropriately classify a water body as ephemeral... suggested language modifications associated with these three indicators are presented below.

#### **Indicator 1.6 (Absence of Rooted Upland Plants in Streambed):**

FCX recommends that language be added to the HP to provide the flexibility needed for proper application of this indicator in specific circumstances where it can be established that the absence of rooted plants in a channel is not driven primarily by hydrologic factors:

*“In some situations (e.g., high gradient sand bedded streams located within flashy watersheds) highly erosive flows and/or depth of scour in response to extreme rainfall events may limit the presence of rooted vegetation. Under these circumstances the assessor may use professional judgment in selecting the appropriate scoring criteria, and should document those factors that explain any alternative scoring methodology.”*

#### **Indicator 1.7 (Sinuosity):**

FCX recommends that language be added to the HP to provide the flexibility needed for proper application of this indicator in specific circumstances where it can be established that sinuosity is not driven primarily by hydrologic factors:

*“In some surface waters (e.g., mountain stream settings or areas of complex and varied geology) channel sinuosity may be more reflective of external morphological factors, rather than the presence or absence of stream flow. Under these circumstances the assessor may use professional judgment in selecting the appropriate scoring criteria, and should document those factors that explain any alternative scoring methodology.”*

**Indicator 1.8 (Entrenchment Ratio):**

FCX recommends that the HP recognize this potential uncertainty, and include language to indicate that it is important to select survey locations that are representative of flow regime, but which may not be representative of entrenchment conditions (which may be highly variable) in areas which display significant entrenchment variability. In these situations FCX recommends that language be added to the HP to provide the flexibility needed for proper application of this indicator in specific circumstances where it can be established that entrenchment is not driven primarily by hydrologic factors:

*“In some surface waters (e.g., mountain stream settings or areas of complex and varied geology) the degree of channel entrenchment may be more reflective of external morphological factors rather than the presence or absence of stream flow. Under these circumstances the assessor may use professional judgment in selecting the appropriate survey location and scoring criteria, and should document those factors that explain resulting ‘representative’ scores.”*

**SWQB Response:**

SWQB appreciates that FCX performed field tests using the *Hydrology Protocol* to get a better idea of the processes and resources involved and to provide practical and specific comments for improving the protocol.

SWQB recognizes that the three indicators referenced by FCX may be subject to scoring uncertainty, especially for the “steep, physically confined, high desert arroyos” FCX mentions. Two of these indicators – entrenchment ratio and sinuosity – would cause a perennial or intermittent system to score as an ephemeral system, whereas only the absence of rooted plants in the streambed may cause an ephemeral system to score as a perennial or intermittent system. SWQB also recognizes that the “entrenchment ratio” indicator has caused some confusion. In response, SWQB has changed the title of this indicator to “floodplain and channel dimensions.” The text and scoring guide in section 1.8 have been modified to reflect this change in terminology, although there has been no change in how this metric is evaluated and scored.

FCX’s recommended language modifications noted above have been added to the descriptions of Indicators 1.6, 1.7, and 1.8. SWQB also added the following to the last sentence for each indicator (additions are underlined):

“...should document on the Field Sheet and with photos those factors that explain...”

## Amigos Bravos

### **Amigos Bravos Comments II.A and II.B**

#### **CWSRF funding opportunities for controlling nonpoint source pollution should be mentioned and outlined in Section VII of the Water Quality Management Plan.**

Clean Water State Revolving Fund (CWSRF) funding should be mentioned under nonpoint source management. Specifically, on page VII-I the second sentence in the last paragraph should read: “ Incentives to voluntarily implement projects and restoration efforts include competitive grant funding through Section 319(h) and the Clean Water State Revolving Fund (CWSRF) program (Title VI) of the federal CWA and technical... “ In addition a separate paragraph or two should be added on page VII-2 at the end of section VII(A)(1) that outlines the nonpoint source control opportunities under the CWSRF program and mentions the green set aside provision of the CWSRF that requires that 20% of funds to be used for green projects under the Green Project Reserve (GPR). [See Section II.A of Amigos Bravos’ comments for the full discussion.]

#### **The Green Project Reserve should be mentioned in other sections of the WQMP where CWSRF is mentioned**

Where CWSRF funding and rating is mentioned the GPR funding should be mentioned as well. This includes section VI.B on page VI-I. Suggested language to include: “During many years Congress mandates that at least 20% of all CWSRF funds be dedicated to green projects under the Green Project Reserve (GPR) program. The intent of the GPR is to prioritize funding to projects that address green infrastructure, water or energy efficiency improvements, or other environmentally innovative activities.” ... There should also be mention of the GRP in section VI-4 where the rating process for CWSRF projects is outlined. ... [See Section II.B of Amigos Bravos’ comments for the full discussion.]

#### **SWQB Response:**

Loans from the CWSRF can be used to support nonpoint source pollution control. Beginning with the American Reinvestment and Recovery Act package in 2009, Congress for the first time also allowed states to subsidize (i.e., offer grants in addition to loans) projects eligible for CWSRF funding. As a result, loan/grant combinations became available for water and wastewater infrastructure as well as nonpoint pollution control. Under NM regulations, the loan/grant combination can only be awarded to governmental entities in rural communities. Congress further mandated that 20% of the capitalization funds (i.e., cash infusions into the loan fund as opposed to loan repayments) should be used to support the green project reserve. In 2010 Congress again allocated capitalization funding to states, but whether continued funding will be available is unknown.

SWQB has added the following paragraph to the description of the *Nonpoint Source Management Program* in Section VII.A (and similar information to the description of the CWSRF in Section VI.B):

*Low-interest loans through the Clean Water State Revolving Fund (CWSRF) are another potential source of funding for nonpoint source control projects in rural communities. The governmental entities identified in the discussion of the CWSRF in Section VI,*

*including municipalities, counties and sanitation districts, are eligible to apply for loan assistance. Depending on the current congressional mandate, combination loan/grants may also be available, and a portion of the available funding may be targeted for the Green Project Reserve to support green infrastructure, water or energy efficiency and environmentally innovative projects.*

### **Amigos Bravos Comment II.C – part 1:**

In section II.C (Use of Hydrology Protocol), figure II-1 on page II-6, there should be an arrow from the Expedited UAA box to the "Classified New Segment" box or perhaps back up to the "Unclassified 20.6.4.98" box.

### **SWQB Response:**

SWQB has added an arrow from the Expedited UAA box to the Unclassified 20.6.4.98 box because an unclassified stream would revert to the protections listed in that section if the expedited UAA were not successful. This figure is not intended to show every possible pathway; the title of the figure now indicates that it depicts “primary pathways”.

### **Amigos Bravos Comments II.C – part 2:**

[In section II.C (Use of Hydrology Protocol) ...] there should be language added that provides a definition of existing uses as “Existing uses are those uses actually attained in the water body on or after November 28, 1975, whether or not they are being attained” 40 CFR 131.3(e) and then clarifies that as per the Clean Water Act and associated regulations existing uses cannot be removed (40 CFR 131.10(h)).

### **SWQB Response:**

SWQB has added the following sentence at the end of the discussion under “Technical support for Use Attainability Analysis” in Section II.C:

*An existing use, defined in the water quality standards as “a use actually attained in a surface water of the state on or after November 28, 1975, whether or not it is a designated use”, may not be removed regardless of the outcome of a UAA unless a use with more stringent criteria is added. (See Subsection A of 20.6.4.15 NMAC and 40 CFR 131.10(h).)*

SWQB has also added references to the prohibition against removing existing uses in the discussion of expedited UAAs in Section II.C:

*If SWQB concludes that the UAA demonstrates that limited aquatic life and secondary contact are the highest attainable uses, and that no existing Section 101(a)(2) uses would be removed, SWQB then moves forward with the expedited UAA process ...*

*In order to demonstrate that Section 101(a)(2) uses are not existing or feasible in an ephemeral water, the UAA must show ...*

### **Amigos Bravos Comments II.C – part 3:**

In section I.B there is no description of OCD's roles and responsibilities under the WQMP.

#### **SWQB Response:**

SWQB recommends no change. Section I.B of the draft WQMP/PPP notes OCD's role under the description of the WQCC: "The WQCC has divided responsibility for administering WQCC regulations for discharges to surface water and to ground water between the New Mexico Environment Department and the Oil Conservation Division of EMNRD according to the type of facility or discharge." OCD has no other formal role under the WQMP; however, it is listed under "Other State Implementation Agencies" (also in Section I.B) as conducting activities that impact water quality.

### **Amigos Bravos Comments II.C – part 4:**

In section I.D there is no mention of the ability for a member of the public to request a public hearing on proposed updates to the WQMP.

#### **SWQB Response:**

The current process for updating the WQMP is described in the PPP on pages 17-20. "Formal" updates include a public notice providing a minimum 30-day comment period and the opportunity to request a hearing. "Administrative" updates are simply considered at a WQCC meeting with no special public notice requirements or hearing option. PPP updates are approved in the same manner as the administrative WQMP update. The proposed process for updating the consolidated WQMP/PPP blends these two approaches into one uniform process that provides for public notice and a 30-day public comment period for all updates, and consideration at a WQCC meeting during which "the WQCC allows all interested persons reasonable opportunity to provide comment before deciding whether to approve the update." While this proposed process omits the public hearing option, it provides ample opportunity for the public to raise its concerns before the WQCC.

### **Amigos Bravos General Comments III.A:**

As an overarching concern, Amigos Bravos asserts that neither the Hydrology Protocol nor the expedited UAA process for ephemeral streams provides adequate data about existing and attainable Clean Water Act Section 101(a)(2) uses. The protocol confuses hydrology with determination of uses. Substantial additional information, including detailed surveys of the entire stream during wet periods and interviews with landowners and land management agencies, would be required in order to determine what aquatic life, wildlife and recreation the stream does or could support. The comments stress that existing uses cannot be removed and that attainable, not just current, uses must be investigated. [See Section III.A of Amigos Bravos' comments for the full discussion of this concern.]



## SWQB Response:

In response to Amigos Bravos' concern that the protocol is intended to identify not only hydrology but the aquatic life and recreation uses supported by the hydrology, SWQB has changed the name of the document to: *Hydrology Protocol for the Determination of Uses Supported by Ephemeral, Intermittent, and Perennial Waters*.

The level of detail described by Amigos Bravos is unnecessary to reach a reasonable conclusion about the uses that can be supported by a stream. The *Hydrology Protocol* already has two levels of detail built in. If the conclusion from the Level 1 evaluation does not arrive at a clear determination of the hydrology and type of uses supported, then the investigator must complete a Level 2 evaluation. In addition, while the *Hydrology Protocol* does not require that the entire stream be surveyed, it does require consideration of appropriate types of information to select representative evaluation sites and to document the homogeneity of the reach (see revised discussion in the Level 1 Office Procedures and the Reach Evaluation section of the expedited UAA cover sheet). SWQB believes that requiring the type of detailed survey suggested would create an unreasonable burden of proof for many UAAs and render the expedited process meaningless.

Amigos Bravos' concern that the *Hydrology Protocol* would not identify Section 101(a)(2) uses is misplaced. The examples of aquatic life that Amigos Bravos is concerned about -- amphibians, peaclams, aquatic snails, and fish that may use the stream during high flows -- all fall within the definition of the "limited aquatic life" use that will apply to any stream approved under the expedited UAA process. The definition in the water quality standards is as follows (20.6.4.7 NMAC):

*"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.*

Because protection will be provided for this designated use, it is not necessary in the UAA to collect specific information confirming that it exists.

Amigos Bravos' underlying argument seems to be that this type of aquatic life use *should* be considered a Section 101(a)(2) use. SWQB does not disagree. However, after the 2005 triennial review, EPA informed New Mexico that the limited aquatic life use does not meet the 101(a)(2) goals, and that UAAs would be required to assign it to a stream. That is the fundamental reason for SWQB's proposal of an expedited UAA process and development of the *Hydrology Protocol*. Amigos Bravos also may believe that the water quality criteria associated with the limited aquatic life use are not sufficiently protective. The Commission considered that question when it created the designated use, and affirmed the appropriateness of the criteria during the last triennial review. This process to consider the draft WQMP/CPP is not the appropriate forum for Amigos Bravos to contest the WQCC's decisions in prior triennial reviews or object to provisions in the water quality standards.

A similar response applies to recreation. The secondary contact use will apply to any stream approved through the expedited UAA process. The definition of secondary contact in the water quality standards is as follows (20.6.4.7 NMAC):

*“Secondary contact” means any recreational or other water use in which human contact with the water may occur and in which the probability of ingesting appreciable quantities of water is minimal, such as fishing, wading, commercial and recreational boating and any limited seasonal contact.*

The type of recreation that could occur along or in an ephemeral stream falls within this definition. An ephemeral stream, which by definition “contains water briefly only in direct response to precipitation”, does not provide opportunity for the “prolonged and intimate human contact with the water” that characterizes the primary contact use (20.6.4.7 NMAC). The duration of flow is too short, and water levels are either too low for prolonged immersion or too hazardous during high flows. By confirming that the natural condition of a stream is ephemeral, the data requirements of the hydrology protocol are adequate to demonstrate that primary contact is not an attainable use.

Amigos Bravos is correct that a UAA should consider not only current but also existing and attainable uses. SWQB has revised the discussion in Section II.C of the WQMP/PPP to emphasize that existing uses may not be removed – see SWQB’s response to Amigos Bravos Comment II.C – part 2. With respect to attainable uses, SWQB has supplemented the discussion in Section II.C under “Technical Support for Use Attainability Analysis” as follows:

*... ~~these~~This factors [40 CFR 131.10(g)(2)] refers to a natural condition, so it is important that the UAA discuss whether the current hydrology and associated aquatic life and/or recreation uses identified by the results of the Hydrology Protocol represent the naturally attainable uses...*

*Factor (2) also refers to the possibility of effluent discharges. If a new point source discharge is planned, then the UAA should assess the attainable uses given that additional flow.*

SWQB has also added elements to the guidance regarding the expedited UAA process in Section II.C:

*... the UAA must show that the current uses identified by the results of the Hydrology Protocol also represent the naturally attainable uses .... Circumstances that might affect that conclusion should be identified and discussed. Examples include drought conditions, and human alterations such as dams, ~~or~~ diversions, or land use practices. ~~or a~~ planned discharge that would increase streamflow could also potentially change the attainable uses. The Expedited UAA Cover Sheet ... calls attention to these considerations and provided in the Hydrology Protocol should be used for the expedited UAA process. ~~and~~ Additional explanation should be attached if needed.*

Finally, SWQB has made several corresponding changes to the Expedited UAA cover sheet regarding existing and attainable uses.

**Amigos Bravos General Comments III.B:**

The need for an expedited UAA process is not adequately identified and does not outweigh the substantial impacts to public participation. [See Section III.B of Amigos Bravos' comments for a full discussion of this concern.]

**SWQB Response:**

This process is not the appropriate forum for contesting elements of the water quality standards. The WQCC approved this expedited UAA process in the last triennial review, adopting the language in Subsection C of 20.6.4.15 NMAC over the objections of Amigos Bravos.

**Amigos Bravos General Comment III.C.1:**

The risk of biased results in using the Hydrology Protocol is too great unless NMED does the analysis. .. We anticipate highly biased evaluations supporting the narrow aims of the contractor or his/her client, many objections to the conclusions, conflicting assessments undertaken by other parties, and expensive litigation. ... Amigos Bravos suggests starting with having NMED do HP analyses to ensure that they are done fairly and without bias.

**SWQB Response:**

SWQB disagrees that the *Hydrology Protocol* is highly susceptible to bias. It lays out an objective methodology based on a numerical scoring system. Every indicator is discussed in the text, and the field sheets describe the conditions that correspond to each score. To the extent that some variability could occur between assessors, the methodology includes redundant indicators, so that the overall determination does not rely on just one indicator. SWQB has tested the scoring system in the field, and incorporated several improvements recommended during two public comment periods.

With respect to NMED's role, SWQB will base its evaluation on the documentation supporting the UAA proposal, rather than verifying the results in the field. If insufficient documentation is provided, then the request will not be approved.

**Amigos Bravos Page-Specific Comment 1:**

**Hydrology Protocol should not be referred to as being only source of information for an expedited UAA.** On page 6 ... As with a standard UAA, the HP should only be one of many tools supporting an expedited UAA. ...

**SWQB Response:**

The *Hydrology Protocol* is designed to consistently gather data on multiple and variable stream attributes which are sufficient to document that limited stream flow supports an ephemeral

designation. This documentation will be adequate to satisfy the requirements of an expedited UAA for appropriate ephemeral waters. Furthermore, the water quality standards specify use of the *Hydrology Protocol* for the expedited UAA process (see 20.6.4.15.C NMAC). To require additional documentation for an expedited UAA would be inconsistent with the standards.

#### **Amigos Bravos Page-Specific Comment 2:**

**The GAP GIS coverage is better than the recommended Omernik coverage.** Page 9 – The GAP Analysis coverages (NM State University) for Montane riparian, Lowland riparian, Arroyo riparian, and Marsh habitats in NM will be critical to the analysis and should be listed in the list of useful coverages provided on page 9. The Omernik Ecoregion coverage, which is listed, will be much less useful.

#### **SWQB Response:**

A link to the Southwest Regional Gap Analysis has been added to the list on this page. In addition, a link to SWQB Mapper, which is now available online, has been added to the list.

#### **Amigos Bravos Page-Specific Comment 3:**

**There should be more guidance about how to define an assessment unit and a survey reach.** On pages 10-11 the HP provides some guidance about how to select a Assessment Unit (AU) and then, once an assessment unit is selected, how to select the survey reach(es)... A clear definition of AU should be provided in the document. Currently many names are used to describe both AUs and reaches and it is very difficult to sort out which is which. ... Perhaps a graphic showing an example AU with survey reaches identified along the AU could be provided. ... The selection of a survey reach is highly vulnerable to surveyor bias and therefore more detailed guidance on how to choose a stretch should be used. ...

#### **SWQB Response:**

The *Stream Segment Identification and Sample Reach Selection* section under the Level 1 Office Procedures has been modified to include definitions of “assessment unit” and “sample reach”. This terminology has been consistently applied throughout the document. Examples have been added for identifying a representative sample reach; however, it is the responsibility of the assessor to verify and document the homogeneity of the AU and representativeness of the sample reach. The Expedited UAA Cover Sheet available at [www.nmenv.state.nm.us/swqb/Hydrology/](http://www.nmenv.state.nm.us/swqb/Hydrology/) has a *Reach Evaluation* section to explain how homogeneity was verified for the AU in question.

#### **Amigos Bravos Page-Specific Comment 4:**

**Photo documentation of more than just the survey reach should be required.** On page 11 the HP states that several photos should be taken of the “reach condition”. ... [I]t is important for photos to be taken of other parts of the AU. A requirement to photo document different conditions along the entire AU should be added to the HP. Surveyors should be encouraged to look for places where there appears to varied geomorphology (pools, riffles, tinijas) and for places where the riparian vegetation appears different (more trees, more greenery, different

species composition etc.) and, if possible, to document these locations along the AU by taking photos.

### **SWQB Response:**

The Photodocumentation section under the Level 1 Field Procedures has been modified as follows:

*... It is essential to take several photos of the sample reach, AU and/or watershed, as appropriate, to document the environmental conditions and any disturbances or modifications that are relevant to making a final hydrology determination. Multiple and varied photos will help evaluate and verify the homogeneity of the AU as well as the representativeness of the sample reach when and if a UAA is reviewed by NMED, EPA and the WOCC. ...*

### **Amigos Bravos Page-Specific Comment 5:**

**Speaking to long term residents must be emphasized to determine stream flow.** On page 13, the HP states, "If there is no flowing water within 48 hours of a rain event, then the reach is more than likely ephemeral." This seems like a gross over simplification. Unless there is long-term stream gauge data, which is unlikely, the most important source of information on stream flow will be long-term residents. The HP needs to emphasize this and every effort needs to be made to find and interview people with long term information about the stream flow and its uses. [See Section III.C.4 and III.D.5 of Amigos Bravos' comments for the full discussion of this concern.]

### **SWQB Response:**

SWQB agrees that long-term residents could provide helpful information and therefore has included "information from long term resident and/or local professional" as other information in Section 2 that may be considered when making a hydrologic determination. Whether such information is necessary depends on site-specific circumstances. Other relevant information suggested in Section 2 includes groundwater contour maps, review of historic information such as aerial photography, and professional judgment. It is the responsibility of the assessor to provide the necessary data and supplemental information to justify the conclusion.

### **Amigos Bravos Page-Specific Comment 6:**

**There are differences between vegetation in ephemeral drainages and uplands.** Page 15 the HP states, "Ephemeral streams generally do not possess the hydrological conditions that allow true riparian vegetation to grow ..." ... To say there is generally no significant difference in vegetation between ephemeral drainages and uplands is often, perhaps usually, not true. Arroyo Riparian Habitat is ... valuable for wildlife because of the generally greater density and diversity of plants, which provide more cover and food than surrounding areas. Because of this, arroyos are preferred travel corridors, as well as nesting, denning, feeding and resting habitat for wildlife and exhibit high wildlife abundance and species diversity when compared to surrounding uplands. Degrading water quality in arroyo riparian habitat degrades the habitat. NM has 678 extant vertebrate species of wildlife, excluding fish. Nearly half of these species (42% - 288)

utilize “Arroyo riparian” habitat. ... [See Section III.D.6 of Amigos Bravos’ comments for the full discussion of this concern.]

### **SWQB Response:**

If the arroyo or drainage has different vegetation, species composition and density from the surrounding uplands, then it will score higher on the scale from poor to strong indicating a more intermittent or perennial system. However, the total score is used to determine the hydrologic status of a stream. “Differences in Vegetation” is only one of many indicators used to make a final determination.

SWQB appreciates that many species of wildlife use riparian habitat along arroyos. The designated use “wildlife habitat” and the associated water quality criteria will continue to apply to all ephemeral streams.

### **Amigos Bravos Page-Specific Comment 7:**

**It is false to conclude that if a stream has reached a score of  $\leq 2$ , that 101(a)(2) uses are not attainable.** On page 16 the HP states “\*\*\*If the reach being evaluated has a score of  $\leq 2$  up to this point, attainment of Clean Water Act Section 101(a)(2) uses is not feasible.” ... The HP, as proposed, does not provide the data to make this statement. ... If the stream does not contain current 101(a)(2) uses, an analysis of the water quality will be necessary to help determine if these uses could be supported. [See Section III.D.7 of Amigos Bravos’ comments for the full discussion of this concern.]

### **SWQB Response:**

The comment repeats previous arguments about Section 101(a)(2) uses and how much documentation is sufficient (see Amigos Bravos comment III.A above and SWQB’s response). With respect to the need for water quality data, if a UAA documents that “natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use” (40 CFR 131.10(g)(2)), then it is not necessary to provide evidence about water quality. Documenting that there is not enough water to support the use is sufficient.

The conclusion has been modified to state:

*“\*\*\* If the sample reach being evaluated has a score  $\leq 2$  up to this point, the attainment of Clean Water Act Section 101(a)(2) uses is not feasible. ~~The reach is determined to be ephemeral ...~~”*

### **Amigos Bravos Page-Specific Comment 8:**

**The value of Entrenchment Ratios is questionable.** Page 17 - Amigos Bravos is very skeptical that this measure is meaningful. There are broad flat ephemeral drainages and deeply incised ephemeral drainages. Entrenchment seems to be more a result of the geology, soils and land management practices than the stream flow.

### **SWQB Response:**

As stated in the *Hydrology Protocol*, “Although one of the difficulties of characterizing dryland ephemeral streams *is their enormous variability in form*, they tend to be more incised with confined channels relative to intermittent and perennial streams” (emphasis added). SWQB recognizes that ephemeral streams may be broad and flat or deeply incised. However, based on our statistical analysis the floodplain to active channel ratio (i.e., entrenchment ratio) is useful for differentiating the hydrologic systems in New Mexico. In fact, this indicator was significant at the  $p < 0.005$  level with average field scores of 0.68 for ephemeral waters, 1.72 for intermittent waters, and 1.89 for perennial waters. Also, it is only one of many indicators used to make a final determination.

Nonetheless, SWQB recognizes that the terminology “entrenchment ratio” has caused some confusion, and has changed the name of this indicator “floodplain and channel dimensions.” (See SWQB response to Freeport-McMoRan Comment 2.)

### **Amigos Bravos Page-Specific Comment 9:**

**Page 20 - It is false to conclude that if a stream has reached a score of  $\leq 5$ , that 101(a)(2) uses are not attainable.**

### **SWQB Response:**

See response to Amigos Bravos Comment 7. The conclusion has been modified to state:

*“\*\*\* If the sample reach being evaluated has a score  $\leq 5$  up to this point, the attainment of Clean Water Act Section 101(a)(2) uses is not feasible. ~~The reach is determined to be ephemeral ...~~”*

### **Amigos Bravos Page-Specific Comment 10:**

**Bivalves Can Survive For Prolonged Desiccation.** On page 27 of the HP it states that: "Clams cannot survive outside of water ... Since clams require a fairly constant aquatic environment in order to survive ..." This is not true. Peaclams which are bivalves and shellfish can withstand prolonged desiccation. They occur in water bodies subject to seasonal drying (i.e., ephemeral and intermittent). They burrow in silt, mud, sand and gravel, and would be difficult to impossible to find live specimens during dry periods, although the tiny shells might be found by very careful study. Peaclams, family Sphaeriidae, are thought to have great potential as 'bioindicators' of pollution events in freshwater and to the toxicities of these pollutions (i.e., highly sensitive to pollution, not less sensitive).

### **SWQB Response:**

Peaclams fall within the definition of the limited aquatic life use, which applies to ephemeral streams even when they are placed under section 20.6.4.97 NMAC. (See response to Amigos Bravos Comment III.A.) The presence of bivalves would increase the total score indicating a more intermittent or perennial system; the absence of bivalves would lower the score indicating a

more ephemeral system, which still protects the limited aquatic life use. It is not necessary to document the presence or absence of peaclams unless the UAA proponent wishes to remove all aquatic life uses. In that case, the regular UAA process must be followed.

**Amigos Bravos Page-Specific Comment 11:**

**Absence of evidence of amphibians during the dry period means nothing.** All pooled water in the entire AU needs to be surveyed for evidence of amphibians and ... surveys need to be conducted during wet periods. ... [See Section III.D.10 of Amigos Bravos' comments for the full discussion of this concern.]

**SWQB Response:**

See response to Amigos Bravos Comment III.A and Page-Specific Comment 10.



## **EPA Region 6 - NPDES Permits and TMDL Branch**

**EPA Comment 1: Page IV-1, Number 2:** Identify Point Sources, NPDES Permit numbers, and expiration dates.

### **SWQB Response:**

The list on page IV-1 is a very general overview of what a state needs to do once a segment is identified as water quality limited. SWQB has addressed this comment by instead revising Step 2 in the process for developing TMDLs in Section IV.C:

*Collate all existing and readily available data necessary to draft TMDLs, including individual and general coverage for NPDES permits, field and laboratory data (chemical, physical and biological) from the assessment process, and critical flow data. In addition, identify point sources covered by individual and general NPDES permits, NPDES permit numbers, and expiration dates.*

**EPA Comment 2: Page IV-4, Number 12:** We suggest adding a hyperlink to approved TMDLs.

**SWQB Response:** The hyperlink has been added.

**EPA Comment 3: Page IV-4; Section D, Paragraph 1:** Identify Settlement Agreement stream segment numbers and pollutants specific for TMDL establishment.

### **SWQB Response:**

SWQB disagrees that the remaining segments in the Settlement Agreement should be identified in this section because the document would then be out of date as soon as one of those TMDLs is completed. SWQB instead has inserted a hyperlink to a list of the remaining segments and impairments list that will be posted on SWQB's TMDL website. The list will be updated as these TMDLs are completed. The revised text in Section IV.D follows, and a hyperlink to the remaining stream segments is provided in Section IV.E:

*SWQB continues to develop TMDLs following prioritize TMDL development considering the schedule and remaining stream segments identified terms established in the settlement agreement and the MOU between NMED and EPA.*

**EPA Comment 4: Page XIV-3, Program Element – TMDL Documents:** Add a bullet for the Environmental Protection Agency Final TMDL Approval.

**SWQB Response:** SWQB recommends no change. This table is entitled "Public Participation Requirements." There is no public participation component to EPA approval of TMDLs. EPA's approval role is explained in the Process for Developing TMDLs in Section IV.C.

**EPA Comment 5:**

**Page V-1:** Table V-1, bottom row, right hand cell. Cell states that “WQBELs may be expressed as either chemical specific limitations (e.g., phosphorus) or as whole effluent toxicity requirements (e.g., biomonitoring).” This cell should be amended to “WQBELs may be expressed as either chemical specific limitations (e.g., phosphorus), narrative limitations (e.g., visible sheen, Best Management Practices, etc.) or as whole effluent toxicity requirements (e.g., biomonitoring).”

**SWQB Response:** The change has been made.

In addition to the comments received above, SWQB has been engaged in recent discussions with EPA’s NPDES Permits and TMDL Branch about how best to manage assigning WLAs for either new discharges or increased discharges into a TMDL reach. In such cases this additional discharge should be allowable at or below the TMDL in-stream target concentration. That is to say, this additional discharge will not further degrade water quality for this segment, and may actually improve it for the parameter of concern. Presently this option would require a full revision to the TMDL. To address this situation SWQB has modified the TMDL Implementation section of the WQMP/PPP (Section IV.B) to allow for these new discharges provided they are at or below the TMDL in-stream target concentration.

*Perm Home*

Morgan Nelson  
3755 E. Grand Plains Road  
Roswell, NM 88502  
February 26, 2011

575 622 2206  
[mnelson@pvtn.net](mailto:mnelson@pvtn.net)

RE: Statewide Water Quality Management Plan and Continuing Planning Process

New Mexico Water Quality Control Commission  
P.O.Box 5469  
Santa Fe, NM 87502

Dear Sirs:

In your planning I find no consideration for saltwater degradation in water quality management. While there is a most flagrant degradation of water occurs here in the Pecos Valley. Good sweet water is made into near brine. I am referring to the Pecos River Settlement where the state of New Mexico sends potable usable water to the state of Texas and in the process the water picks up so much salt that is unusable. This is unacceptable in this arid West where water is such a precious and limited resource.

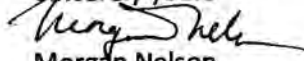
The water that is pumped into the river has a salt content of less than 500 ppm. It goes into the Pecos and that the Malaga Bend it picks up tons of salt every day where it goes into the Red Bluff Dam and the salt is further concentrated by the high evaporation in this dry hot area. When this turned out into the river it picks up more salt in the Pecos reaching as high as 8000 ppm. It has turned out for irrigation into dirt canals to be delivered to fields scattered over 8 miles or more distance. At this point only a few crops can be grown under this irrigation. Only 50% of the water turned out of Red Bluff can ever reach the fields because of the inefficient canal system then it takes 3 times more water if a crop could be grown. Most of the fields in the red Bluff district have been abandoned and those that are not abandon our generally cultivated for the government insurance.

The water in New Mexico is capable of growing good crops by the use of 3 1/2 acre-feet of water per year. Saltwater requires 9 acre-feet per year if crops can be grown at all. This is a total and complete waste of this precious commodity. At this point the water has no practical economic value. Since much of it has been bypassed it goes into the Falcon Dam and is raising the salt level into that dam and affecting the crops and population of the Lower Rio Grande Valley.

The base flow carries 10 times of salt daily into Red Bluff Dam. The only way to get sweet water into the Red Bluff Dam is floodwater. It is true that there are very few floods nowadays on the Pecos. This saltwater has destroyed the aquifer in the Red Bluff area. The fields are barren with only a few weeds growing in scattered pumps are rusting in the wells.

New Mexico has spent over \$70 million to meet their obligation to Texas which is done nothing but destroy the water. I fail to understand, with all of the environmental stress, many times, less important and small issues and ignore such a major waste of this precious commodity and allow it to continue. It shows a complete lack of judgment and interest of the environmentalist in important major problems to concentrate on many small but publicity seeking issues.

Sincerely yours

  
Morgan Nelson

TO: PAM HOMER, NMED SWQB  
FROM: FERNANDO CADENA  
SUBJECT: EBID'S COMMENTS ON PROPOSED SWQMP/CPP INTEGRATED DOCUMENT  
DATE: FEBRUARY 8, 2011  
CC: HENRY MAGALLANEZ, JAMES NARVAEZ, EBID

---

## BACKGROUND

The NMED proposes to consolidate the Water Quality Management Plan and Continuing Planning Process into one document, and establish the process for updating the consolidated document. The integrated document should incorporate changes and new developments that have occurred over the last several years. SWQB solicits all public comments upon which it will make appropriate revisions to the DRAFT WQMP/CPP, and bring the revised document to the WQCC for approval at a future meeting. The following comments on the DRAFT document are made on behalf of the Elephant Butte Irrigation District, EBID.

## COMMENTS

1. The DRAFT document integrates two prior documents and adds considerable new content. In our opinion, this is a commendable and noteworthy effort. In general instead of using the traditional strikeout (for text deletion), normal font (for unchanged text), and underline (for proposed changes) the authors attempt to summarize the final product by using ambiguous terms such as "Significant Changes" and "Minor Changes." Besides ambiguity, this terminology predisposes the reader to conclude that changes are important or not important. This decision should be made by the reader, without biasing his/her opinion during the normal document assessment. It is also impossible to figure out which changes were made without comparing the three documents (WQMP, CPP, and DRAFT WQMP/CPP) simultaneously and side-by-side. Recommendation: The DRAFT document should be revised so that the ambiguous and predisposed terms are eliminated and the conventional editorial methodology is employed, instead.
2. The terms "Waters of the State" or "Waters of the state" are used throughout the document. It is important to notice that the definition of these terms is not given in the document. Since compliance with the proposed DRAFT document hinges on the current definition of Waters of the State, this is subject to changes within the original source's definition. Thus, compliance with the proposed DRAFT document represents a "moving target" whose status depends on a completely different reference. Recommendations: Use the term "Waters of the State" instead of "Waters of the state" and define it within the document. Two definitions may be needed if groundwater and surface water are considered as different entities.

3. Page v. A completely new “Wetland Programs” section is added to the DRAFT. Recommendations: Considering the importance and newness of the added “Wetland Programs” section, we believe that its introduction to the text should be mentioned as a seventh primary goal on page v.
4. Page II-3. Nonpoint pollution BMPs are voluntary, as mentioned elsewhere (page IV-3) in the text. However, this is not mentioned in this section. Recommendation: change the text from “Implementation of water quality standards occurs through controls on point source pollutant discharges and through best management practices applied to nonpoint sources of pollution...” to “Implementation of water quality standards occurs through controls on point source pollutant discharges and through voluntary best management practices applied to nonpoint sources of pollution...”
5. The authors should be commended for providing an accelerated methodology for distinguishing among ephemeral, intermittent and perennial streams. In section 1 on UAA we notice that use may not be removed or changed unless any of six factors are met. The terms “substantial and widespread economic and social impact” are used in factor number 6. These two adjectives are ambiguous and mostly unquantifiable. Recommendation: We suggest rewording of this section to more accurately represent desired outcome.
6. Pages II-6, II-9. We favor the concept of decision trees, which simplify interpretation of otherwise complex guidelines. However, the two decision trees are drawn in an unorthodox manner that obfuscates the decision process. Strictly speaking, the two DRAFT decision trees are not such, since the user is never asked to make a single decision. *Reference for Business* provides some simple guidelines to creating a decision tree:

“A decision tree represents a choice or an outcome with a fork, or branch. Several branches may extend from a single point, representing several different alternative choices or outcomes. There are two types of forks: (1) a decision fork is a branch where the decision maker can choose the outcome; and (2) a chance or event fork is a branch where the outcome is controlled by chance or external forces. By convention, a decision fork is designated in the diagram by a square, while a chance fork is usually represented by a circle.” ([Decision Tree http://www.referenceforbusiness.com/encyclopedia/Cos-Des/Decision-Tree.html#ixzz1DOI7Jkkn](http://www.referenceforbusiness.com/encyclopedia/Cos-Des/Decision-Tree.html#ixzz1DOI7Jkkn)).

Since the user of the proposed decision trees is never asked to make any choices, there are therefore no possible outcomes from the decision process. FYI: see [http://water.epa.gov/drink/info/arsenic/upload/2005\\_11\\_21\\_arsenic\\_handbook\\_arsenic\\_treatment-tech.pdf](http://water.epa.gov/drink/info/arsenic/upload/2005_11_21_arsenic_handbook_arsenic_treatment-tech.pdf) for examples on proper decision trees.

Recommendation: Correct all “decision trees” to make them functional

7. Page III-2. Section C, on Reporting is clear on when and how a waterbody should be listed under section 303(d). However, no method is provided, to our knowledge, on how to delist a waterbody that has met criteria after implementing WLA and LA. Recommendation: Methodology for delisting 303(d) waterbodies should be included. This methodology should indicate how long should the applicant wait after the water body has met expectations to delist it from the 303(d) list.
8. Page IV-3. It is unclear from section B what will be the outcome of the program if the TMDLs cannot be met in a water body after all WLAs are reduced to the minimum practical level. Recommendation: Clarify course of action should TMDLs fail after all WLAs are reduced to or below their enforceable limit.
9. Page V-1. According to this section's significant changes "drops fecal coliform bacteria effluent limitation because water quality standards now include bacterial criteria for all surface waters." It is unclear to us why this limitation has been dropped. Recommendation: Please clarify.
10. Page VII-1. According to the classification, storm water runoff is considered a nonpoint pollution source. We approve of this position. No action requested.
11. Page VII-2. According to Section A, "A number of the federal agencies involved have agreed, formally or informally, to ensure ... enforceable provisions for compliance with water quality standards." The conjoined terms "formally or informally" are not only ambiguous but they encompass every possible option. Recommendation: List participating federal agencies by name and their level of commitment.
12. Page VII-2. We question why the Department of Game and Fish is not listed among the participants, considering the importance of surface water quality to this agency. No action required.
13. Page XII-1. The groundwater pollution prevention program, according to section A, also addresses unauthorized discharges such as spills... Considering that most spills begin at or near the ground or water surface, we believe that the SWQB should be involved during such events. No action required.
14. Page XV-1. According to the description, this section was not included in either WQMP or CPP. Considering the importance of wetlands and implications to land and water users, it is critical that a clear definition for "Waters of the State" is provided within the text. No action required if this concern is addressed before.





**NEW MEXICO DEPARTMENT OF AGRICULTURE**

OFFICE OF THE DIRECTOR/SECRETARY  
MSC 3189, Box 30005  
Las Cruces, New Mexico 88003-8005  
Telephone (575) 646-3007

March 10, 2011

Ms. Pam Homer, SPRT Team Leader  
New Mexico Environment Department  
Surface Water Quality Bureau  
Standards, Planning and Reporting Team  
P.O. Box 5469  
Santa Fe, New Mexico 87502

Dear Ms. Homer:

New Mexico Department of Agriculture (NMDA) has reviewed the Water Quality Management Plan (WQMP) and the Continuing Planning Process (CPP) Comprehensive Update (Public Comment Draft), referred to as Draft Update for the remainder of this correspondence. The following are NMDA's comments respectfully submitted to the New Mexico Environment Department (NMED) regarding the Draft Update. NMDA understands the intention of merging the two documents, which serve as the primary guidance for water pollution control in New Mexico's waters; and NMDA hopes these comments assist with the public review process.

NMDA appreciates the specific notations by NMED in each section that describe the previous locations for Draft Update elements within the existing WQMP and the CPP documents but found it arduous to analyze the changes without strike-out versions similar to those found in legislative proposals and amendments. It is important to review elements that have been added or omitted, which may not be obvious as either significant or minor changes. Further, to define significant versus minor changes may be subjective depending on an organization's standpoint and constituent/client base.

Contained in the preface is a list of the primary goals for the Draft Update. The first goal stated is to establish the process for updating the consolidated document. This process is included in the Introduction, Section D; but the Table of Contents should read "Process for Updating and Maintaining the WQMP/CPP" as it is titled in Section D. NMDA hopes that an update will be developed in response to the 2010 population census, as stated in the Introduction, Section D of the Draft Update.

The second primary goal stated is to incorporate changes and new developments that have occurred over the last several years and lists such examples. It is unclear why these new developments, such as amended water quality standards, have not been incorporated into the

Ms. Pam Homer, SPRT Team Leader

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WQMP once they have gone through the required public process and approved by the appropriate parties (i.e., the Water Quality Control Commission (WQCC) or the U.S. Environmental Protection Agency). NMDA understands the public process involved for updating the documents; but as the name and intention implies, a continuous process should be utilized in order to maintain the most current information for users of the WQMP/CPP. It seems as though previously approved elements should be incorporated into the WQMP/CPP to improve and streamline the availability of information. Having said that, it is stated on page IV-4 that approved Total Maximum Daily Loads (TMDLs) will be updated within Appendix B of the WQMP/CPP as they are approved. In the current WQMP (last amended May 13, 2003), the list of TMDLs has not been continually updated and contains only those prior to the 2003 amendment.

The Table of Contents should have a line specifying the list found on page IV, "Documents Incorporated by Reference into this WQMP/CPP."

In the Introduction, Section A, historical perspective on the evolution of the WQMP has been omitted. One consideration by NMED could be to condense this element and include "big picture" points such as shifts in national programs and how they affect management of New Mexico water quality. Historical perspectives can be useful to those who are entering the workforce and trying to understand water quality management issues in the state. For instance, a timeline of applicable Clean Water Act (CWA) milestones might be a valuable element to those who consult and utilize the Draft Update, as well as a concise summary of the history and content of WQMP and CPP updates.

On page I-7, the New Mexico Water Cabinet is referenced by Executive Order No. 2007-050 and participating agencies are listed; but it is an incomplete list. On page 2 of this Executive Order, the membership of the Water Cabinet is listed in total. The Draft Update should utilize the listed membership in its entirety, which it currently does not do.

On page I-11, a reference is made to documents that relate to elements of the WQMP/CPP; a page number should be inserted to complete the reference.

On page II-1 of the Draft Update, within the reference to the objective of water quality standards, it should read "New Mexico" instead of "Mexico" on line 4 of the reference paragraph in italics.

On page II-2, within the Antidegradation Policy paragraph, the word "and" should be removed between the words "shellfish" and "wildlife."

On page II-4, Soil and Water Conservation Districts (SWCDs) are listed as an entity that can provide information and apply for assistance with planning new nonpoint source discharges. Has this statement been vetted by the Soil and Water Conservation Commission (SWCC)? This reference could be elaborated on by consulting the SWCC regarding the services that the SWCDs provide. This statement continues with "and other entities"; can NMED provide additional examples of such entities?



Ms. Pam Homer, SPRT Team Leader

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On page III-2 in the second paragraph, the Draft Update states, "On the basis of available data, SWQB identifies those surface water segments not meeting water quality standards." This statement implies that the data collection performed by the Surface Water Quality Bureau (SWQB) does not result in sufficient data for the determination of water quality impairments. Isn't SWQB data collection, for instance in the eight year rotation cycle, designed to be sufficient for such a determination? While it is valuable to solicit additional data, it should not be a method utilized to obtain a complete data set.

On page III-2 in the bulleted list of assessment activities that support water quality management processes, the fourth bullet refers to the review of actions which require an antidegradation analysis. What specific actions require such an analysis? This should be clarified within this statement.

Beginning on page IV-1, it is noticed that both "nonpoint" and "non-point" are used; as minor a point as this is, it should be consistent throughout the document.

On page IV-4, the first paragraph in Section D should be condensed to provide a more concise background on how NMED agreed to meet the terms of the settlement agreement, which provides a schedule by which New Mexico will address the development and prioritization of TMDLs. References to the legal history do not seem relevant to this element. The reference to a "final TMDL" in the last sentence does not contain any context; the preceding language only refers to TMDLs in a broad sense. The important point here is that the SWQB follows the terms of a settlement agreement and accompanying Memorandum of Understanding.

In Chapter IV of the Draft Update, "TMDLs" should contain some language describing the process by which TMDLs are fulfilled through the implementation of "Best Management Practices" and effectiveness monitoring. This type of information is described within individual TMDLs, but this chapter could be improved with an explanation as to how water bodies evolve from a water quality limited status to meeting standards.

On page V-1, in the first paragraph, the words "in Dallas" could be removed.

On page V-3, regarding the inclusion of language concerning state certification of NPDES permits, this language may need to be revised based on WQCC determination. This comment also applies to page X-1 referencing state certification for dredge and fill permits.

On page VI-1, the first sentence of Section C should read "The New Mexico Rural Infrastructure Act..." to clarify its status. The last sentence of this section needs a period at the end.

There are several grammatical and punctuation edits needed within Chapter VII Nonpoint Source Management and Control.

The bulleted list starting on page VII-3 would be improved if the milestones were listed in chronological order. A reference to the last date of revision (2009) to the Nonpoint Source Management Plan should be included with the last sentence of this section.

Ms. Pam Homer, SPRT Team Leader

Page 4

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NMDA would like to encourage a careful review by the WQCC on the WQMP/PPP, especially on the sections that are new (Rural Infrastructure Revolving Loan Program, Special Appropriations Program, Uniform Funding Application, Process for CWA Section 401 Certification of Dredge and Fill Permits, and Wetlands Program). Further, the public participation chapter should be carefully reviewed by the WQCC because of its primary role in fulfilling public participation requirements.

The Final Draft Hydrology Protocol should have an "Appendix C" label.

Thank you for your consideration of NMDA's comments on the Draft Update. Please contact Ms. Julie Maitland, Director, Agricultural Programs and Resources division, at 575-646-2642 with any questions.

Sincerely,



Tom Bagwell  
Interim Director/Secretary

TB/JM/hb



*Environmental Protection Division*  
Water Quality & RCRA (ENV-RCRA)  
P.O. Box 1663, Mail Stop K490  
Los Alamos, New Mexico 87545  
(505) 667-0666/FAX: (505) 667-5224

Date: March 10, 2011  
Refer To: ENV-RCRA-11-0046  
LAUR: 11-10139

Ms. Pamela Homer  
Water Quality Standards Coordinator  
Surface Water Quality Bureau  
Harold Runnels Building, Room N2050  
1190 St. Francis Dr.  
P.O. Box 5469  
Santa Fe, NM 87502-5469

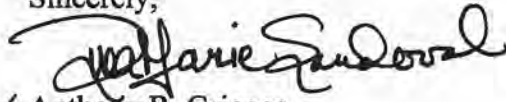
Dear Ms. Homer:

**SUBJECT: LOS ALAMOS NATIONAL LABORATORY, COMMENTS ON NMED'S  
WATER QUALITY MANAGEMENT PLAN AND HYDROLOGY  
PROTOCOL**

Thank you for the opportunity to comment on the proposed Water Quality Management Plan and Hydrology Protocol. We provide the following comments for your consideration (See Enclosure 1).

Please call Mike Saladen at 665-6085 if you have questions or need additional information.

Sincerely,

  
for Anthony R. Grieggs DGL  
Group Leader  
Water Quality & RCRA (ENV-RCRA) Group

ARG:MS/lm

Enclosure: a/s

Cy: Gene Turner, LASO-EO, w/enc., A316  
Michael Mallory, PADOPS, w/o enc., A102  
J. Chris Cantwell, ADESHQ, w/o enc., K491  
Steve Veenis, PMFS-DO, w/enc., M881  
Armand Groffman, ET-EI, w/enc., M997  
Mike Saladen, ENV-RCRA, w/enc., K490, (E-File)  
Cindy Blackwell, LC-LESH, w/enc., A187  
ENV-RCRA File, w/enc., K490  
IRM-RMMSO, w/enc., A150



## LOS ALAMOS NATIONAL LABORATORY – COMMENTS

### NMED'S WATER QUALITY MANAGEMENT PLAN AND HYDROLOGY PROTOCOL

#### SPECIFIC COMMENTS

##### II. Surface Water Quality Standards – 2. Water Quality Limited Segments (p. II-4)

A significant omission from the WQMP/CPP is the lack of discussion about site-specific criteria. 20.6.4.10.D & E NMAC, adopted in 2010, specifies how the WQCC will adopt site-specific criteria for surface water based on local physical, biological, or chemical factors. This provides the possibility for adjustment of numeric criteria from national default levels to those more appropriate for site-specific conditions. For example, if aluminum concentrations resulting from natural background levels are greater than default aquatic life or wildlife criteria, petition could be made to establish alternate criteria based on local conditions.

Establishing site-specific criteria could have substantial ramifications on regulatory compliance status, degree of impairment, and TMDLs. Thus, the WQMP/CPP should frame how New Mexico's water quality management system will proceed with such petitions because of the potential importance of site-specific criteria.

A variety of conditions may necessitate a petition for site-specific criteria. Such conditions may include:

- actual species at a site are more or less sensitive than those used in the national criteria data set;
- physical or chemical characteristics at a site such as pH or hardness alter the biological availability and/or toxicity of the chemical;
- physical, biological, or chemical factors alter the bioaccumulation potential of a chemical; or
- the concentration resulting from natural background exceeds numeric criteria for aquatic life, wildlife habitat or other uses.

The scientific investigations needed to develop site-specific criteria can range from modest to complex. The data collection must be conducted according to rigorous quality control standards and the data analysis must be performed by individuals experienced in environmental data analysis and statistics. The sampling should be adequate to describe natural variability. In many cases, it is likely that a considerable period of data collection, interpretation, and regulatory review is needed before the alternate criteria are adopted.

However, we believe that an expedited process is needed for establishing site-specific criteria based on natural background. The expedited process would be used only if natural background *clearly* was the cause of elevated constituent concentrations.

Two general types of background determinations should be considered for an expedited process:

- For intermittent or perennial sites located in remote or headwater locations upstream or outside the influence of significant potential contaminant sources. Background water quality is directly measured upstream of known contaminant sources. More specifically, this would include headwaters surface water (say, 1<sup>st</sup> through 3<sup>rd</sup> order streams) above known effluent discharges. A statistical definition (e.g., 95<sup>th</sup> percentile) would be required to apply the recommended criteria. A modest monitoring of water bodies is required here.
- For intermittent or perennial sites located downstream of *minor* human sources with occasional releases (say, only from storm runoff). Water quality is measured at the site and, ideally, also at a nearby control site with similar geology and landscape, as above. Comparison of levels at the control site to those at the downstream site will provide a gauge of human impact. Statistical definition of background can be made for the site after anomalous water quality measurements are mathematically identified. We introduced many of these concepts during the recent Triennial Review hearings (Gallaher direct testimony). A larger data collection effort is needed here to determine background for the downstream site, with sampling potentially conducted at multiple locations over several seasons. Despite the larger monitoring effort, background can be clearly identified and established when upstream releases are infrequent.

Reference: Gallaher. “Some Basic Statistical Techniques to Estimate Natural Background Water Quality of Surface Waters,” Direct Testimony of Bruce M. Gallaher for LANL at 2010 New Mexico Triennial Review.

#### Hydrology Protocol (Appendix C)

Although we support the NMED’s attempt to simplify the regulatory process, we remain concerned that numerical scores obtained from the Hydrology Protocol will typically “trump” professional judgment. It is thus very important that the Protocol indeed be a living document as proposed, with periodic revision. It would be helpful to know how often the Protocol will be updated or reviewed. The need to review the adequacy of each



attribute used in the Protocol is amplified because of the skepticism expressed by many reviewers of some of the attributes, such as entrenchment.

The Hydrology Protocol attributes for scoring were determined through an analysis of variance of NMED data collected at drainages around the State. Text should be added to the WQMP/ CPP that describes how NMED pre-determined stream flow status for each segment. Also, for transparency, the actual scores obtained at each of the sites should be made available, along with a few examples of a fully-completed assessment. These may be helpful to researchers attempting to evaluate a stream segment located near those earlier scored by NMED.

#### IV. Total Maximum Daily Loads

Text should be added to this discussion that describes how adoption of site-specific criteria will impact the TMDL process. If a TMDL was developed to achieve the national default criteria, would the TMDL be revised (or even withdrawn) if the segment is no longer water quality limited based on new site-specific criteria?

#### **MISCELLANEOUS COMMENT**

1. Page I-4. Has agency name been updated to “NM Bureau of Geology and Mineral Resources?”



Freeport-McMoRan Copper & Gold Inc.  
6840 N. Oracle Rd. #140  
Tucson, AZ 85704

E. L. (Ned) Hall  
Manager, Water Quality Programs  
Environment Services Department  
Office: (520) 229-6470  
E-Mail: Ned\_Hall@fmi.com

March 11, 2011

**Via Email and Certified Mail #7008 2810 0000 0983 6703**  
**Return Receipt Requested**

Ms. Pamela Homer  
New Mexico Environment Department  
Surface Water Quality Bureau  
P.O. Box 5469  
Santa Fe, New Mexico 87502

**Re:            Comments on Final Draft Hydrology**  
**Protocol, Statewide Water Quality Management Plan**

Dear Ms. Homer:

Freeport-McMoRan Copper & Gold Inc. (FCX) appreciates the State's willingness to consider stakeholder comments in their development of tools to support surface water classification in the State of New Mexico, and we welcome the opportunity to submit comments on the draft final Hydrology Protocol (HP) issued by the New Mexico Environment Department Surface Water Quality Bureau (SWQB) in December 2010. The HP appears to be a very useful tool for evaluating surface waters and supporting expedited or formal Use Attainability Analyses (UAAs). FCX supports the SWQB creating a defensible standard for any knowledgeable party to use in classifying surface water of the State as a way to stream-line use designations across all types of surface water in the State of New Mexico. There are potentially thousands of situations that require use designation of one type or another, and FCX appreciates an attempt to streamline a process that could be time-consuming and expensive for stakeholders.

FCX understands that the HP represents a methodology for distinguishing between ephemeral, intermittent, and perennial streams and rivers in New Mexico. The correct hydrologic regime designation is critical to assure that the appropriate uses and water quality criteria are applied to a particular water body. The protocol relies on 14 different hydrological, geomorphic, and biological indicators of the persistence of water and is divided into two levels: Level 1 uses a number of different indicators and scoring criteria to determine if a water body should be classified as ephemeral, intermittent, or perennial; Level 2 is implemented if there is no definitive stream type classification made during the Level 1 assessment.

FCX recognizes the difficult task that the SWQB is faced with when attempting to draft a protocol describing appropriate indicators and scoring criteria applicable state-wide across a variety of different geologic, hydrologic and geomorphic settings. In order to gain practical understanding of the use of the HP, FCX applied the HP to a number of candidate water bodies which include steep, physically confined, high desert arroyos subject to short-lived high energy flows driven by seasonal monsoonal precipitation events. Through this effort, FCX identified some potential for misclassification based on the current indicator-specific scoring criteria. Although FCX understands that it is impossible to develop

a protocol which applies perfectly to every situation, there may be opportunities to improve the broad applicability of the protocol with some relatively minor modifications to language associated with scoring for a handful of indicators. More specifically, indicators and scoring criteria associated with 1.6 (Absence of Rooted Upland Plants in Channel), 1.7 (Sinuosity) and 1.8 (Entrenchment Ratio) have the potential, under certain circumstances, to result in scores which fail to appropriately classify a water body as ephemeral. Comments and suggested language modifications associated with these three indicators are presented below.

**Indicator 1.6 (Absence of Rooted Upland Plants in Streambed):** As stated in the HP,

*"Since flow will often act as a deterrent to plant establishment by removing seeds or preventing aeration to roots. Cases where rooted upland plants are present in the streambed may indicate ephemeral or intermittent flow."*

As such, if rooted upland plants are absent within the streambed/thalweg these criteria would be scored with three (3) points. However, in certain environments and geomorphic settings the lack of rooted upland plants in the streambed would not suggest an intermittent or perennial stream channel, but may be consistent with an ephemeral hydrologic regime. For example, high gradient, sand bed rivers in flashy watersheds where rainfall is intense but infrequent are highly erosive environments, one in which the extreme mobility of the substrate and depth of scour when water does flow, limits the opportunity for rooted vegetation to grow and removes any vegetation that has taken root. In fact, one of the example photographs presented for Indicator 1.9 as being representative of an ephemeral stream channel (Figure 1, copied from the HP) clearly shows a lack of Rooted Upland Plants in the Streambed. Based on the scoring criteria within the HP however this site would receive a score of 3 (indicative of intermittent or perennial stream flow). In a situation such as this, it seems counter-intuitive to apply a score which is indicative of a perennial or intermittent stream channel to an ephemeral stream.

FCX recommends that language be added to the HP to provide the flexibility needed for proper application of this indicator in specific circumstances where it can be established that the absence of rooted plants in a channel is not driven primarily by hydrologic factors:

**"In some situations (e.g., high gradient sand bedded streams located within flashy watersheds) highly erosive flows and/or depth of scour in response to extreme rainfall events may limit the presence of rooted vegetation. Under these circumstances the assessor may use professional judgment in selecting the appropriate scoring criteria, and should document those factors that explain any alternative scoring methodology."**

Figure 1. Photograph copied from HP Indicator 1.9 which clearly illustrates a lack of instream vegetation and is used to represent an ephemeral stream channel for Indicator 1.9. However, this reach would receive a score of 3 (i.e., intermittent or perennial) under Indicator 1.6.





**Indicator 1.7 (Sinuosity):** As stated in the HP,

*"Sinuosity is a measure of a channel's "crookedness." Sinuosity is the result of the stream naturally dissipating its flow forces. Intermittent systems don't have a constant flow regime and, as a result, exhibit substantially less sinuous channel morphology. While ranking, take into consideration the size of the stream (e.g. 1st, 2nd, 3rd order, etc.), which may also influence the stream sinuosity. Sinuosity is best measured using aerial photography (Rosgen 1996)."*

A stream's planform (i.e., sinuosity), is formed through the transport of water and sediment but it also reflects the influence of surrounding geology, differences in both sediment characteristics and vegetation longitudinally as well as by variations in floodplain width. The discussion provided within the HP (provided above) is certainly applicable to many streams over a wide range of geomorphic settings, but is generally reflective of self-formed channels within a broad floodplain. However, in other environments and geomorphic settings where the presence of bedrock outcrops or hillslopes encroach on the floodplain and stream channel the channel sinuosity is not necessarily reflective, or determined, by the frequency or permanency of flow. In a situation such as this, it may not be appropriate to apply a score which is indicative of a perennial or intermittent stream channel (i.e., to a surface water segment which would otherwise be classified as ephemeral) due solely to external morphological factors which have very little to do with the presence or absence of surface flow, and which clearly account for observed stream sinuosity.

FCX recommends that language be added to the HP to provide the flexibility needed for proper application of this indicator in specific circumstances where it can be established that sinuosity is not driven primarily by hydrologic factors:

**"In some surface waters (e.g., mountain stream settings or areas of complex and varied geology) channel sinuosity may be more reflective of external morphological factors, rather than the presence or absence of stream flow. Under these circumstances the assessor may use professional judgment in selecting the appropriate scoring criteria, and should document those factors that explain any alternative scoring methodology."**

**Indicator 1.8 (Entrenchment Ratio):** As stated in the HP,

*"Although one of the difficulties of characterizing dry-land ephemeral channels is their enormous variability in form, they tend to have low entrenchment ratios relative to intermittent and perennial channels."*

While it is true, as described in the HP, that ephemeral stream channels may generally be more entrenched than either intermittent or perennial stream channels, in some specific situations the degree of channel entrenchment is more reflective of local topography and geology (as opposed to the presence and duration of surface flow). Variation in channel width, slope and/or discharge is typical of ephemeral streams and can result in alternating patterns of scour (entrenchments) and deposition (lack of entrenchment) along the stream channel. For example, physical channel characteristics may result in areas of energy dissipation which result in depositional zones with little entrenchment in an ephemeral system. This can occur in areas of significant flow loss through infiltration, and/or areas of valley widening, both of which cause a decrease in erosion potential, depositional areas, and thus less

entrenchment. As a result, the HP score can be driven more by the specific survey location within the assessment unit than any actual changes in the flow regime (which may be consistent over areas of relatively more and less entrenchment). In these specific situations, it may be inappropriate to apply a score which is indicative of a perennial or intermittent stream channel (i.e., to a surface water segment which would otherwise be classified as ephemeral) due solely to external morphological factors which have very little to do with the presence or absence of surface flow, and which clearly account for observed channel entrenchment.

FCX recommends that the HP recognize this potential uncertainty, and include language to indicate that it is important to select survey locations that are representative of flow regime, but which may not be representative of entrenchment conditions (which may be highly variable) in areas which display significant entrenchment variability. In these situations FCX recommends that language be added to the HP to provide the flexibility needed for proper application of this indicator in specific circumstances where it can be established that entrenchment is not driven primarily by hydrologic factors:

**“In some surface waters (e.g., mountain stream settings or areas of complex and varied geology) the degree of channel entrenchment may be more reflective of external morphological factors rather than the presence or absence of stream flow. Under these circumstances the assessor may use professional judgment in selecting the appropriate survey location and scoring criteria, and should document those factors that explain resulting ‘representative’ scores.”**

## Summary

FCX understands that the inclusion of the additional suggested language results in some flexibility in HP application, which may be viewed by some as weakening the protocol. To the contrary, we believe that the inclusion of our suggested language strengthens the protocol and increases its broad applicability and robustness. Based on our experience we find that landscape setting, size of the watershed, location in the watershed, elevation, gradient, lithology, and hydrologic events all play an important role in developing different stream types and channel geometry. Furthermore, having recently applied this new protocol to a number of candidate water bodies (which include steep, physically confined, high desert arroyos subject to short-lived high energy flows driven by seasonal monsoonal precipitation events), FCX believes that non-hydrologic factors play a primary role in determining the presence/absence of rooted plants in channels, sinuosity, and entrenchment ratio in these types of surface waters, and there should be additional flexibility in the protocol to reduce reliance on these three factors where they have little relevance to stream classification

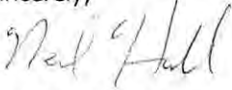
FCX also recognizes that these types of surface water segments are common in New Mexico, and likely make up the majority of truly ephemeral surface waters in the state. FCX therefore believes that application of the HP, without the inclusion of the provided suggested additional language (or similar language), would lead to the misclassification of a large number of truly ephemeral surface waters using Level 1 methods. FCX understands that Level 2 methods could be applied to address the issues raised, but this solution would result in expenditure of significant resources considering how many as yet unclassified, but truly ephemeral, surface waters exist in New Mexico which display the types of physical, non-hydrologic, factors discussed here which largely affect the three indicators discussed above. Finally, it is important to consider that NMED will make final decisions regarding the conclusions of a UAA based on application of the HP, and will therefore have the ability to review the technical and scientific basis of any scoring approaches or conclusions for these three indicators based on specific circumstances.

Pamela Homer  
March 11, 2011  
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FCX appreciates the opportunity to provide these comments, and looks forward to any opportunity to work with NMED to make improvements to the HP, while maintaining the integrity of the overall approach and methods. In conclusion, FCX supports the development of the HP, and considers this to be a scientifically supported and valuable regulatory tool to achieve use designation, where appropriate, based on hydrological regime.

Please contact me at (520) 229-6470 if you have any questions regarding these comments.

Sincerely,



E. L. (Ned) Hall  
Manager, Water Quality Programs

ELH:ms

xc: Tim Eastep, Freeport-McMoRan Chino Mines Company



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March 11, 2011

VIA e-mail to: pamelahomer@state.nm.us

**RE: Amigos Bravos Comments on the Water Quality Management Plan/Continuing Planning Process and Hydrology Protocol**

Dear Ms. Homer,

**I. INTRODUCTION**

Amigos Bravos thanks NMED for the opportunity to comment on the proposed changes to the Water Quality Management Plan and Continuing Planning Process (WQMP/CPP) and on draft Hydrology Protocol (HP). We greatly appreciate the thought and concerted effort that NMED has put into developing these documents. Amigos Bravos is aware that developing the HP especially has been along and complicated process and Amigos Bravos applauds NMED for working so diligently on this process. Amigos Bravos especially appreciates that there were two public comment periods on this draft document. Having said that, Amigos Bravos does have a number of very serious outstanding concerns with the HP that are outlined below under Section III of these comments.

**II. WATER QUALITY MANAGEMENT PLAN AND CONTINUING PLANNING PROCESS**

**A. CWSRF Funding Opportunities For Controlling Nonpoint Source Pollution Should Be Mentioned And Outlined In Section VII Of The Water Quality Management Plan.**

Clean Water State Revolving Fund (CWSRF) funding should be mentioned under nonpoint source management. Specifically, on page VII-I the second sentence in the last paragraph should read: "Incentives to voluntarily implement projects and restoration efforts include competitive grant funding through Section 319(h) and the Clean Water State Revolving Fund (CWSRF) program (Title VI) of the federal CWA and technical..." In addition a separate paragraph or two should be added on page VII-2 at the end of section VII(A)(1) that outlines the nonpoint source control opportunities under the CWSRF program and mentions the green set

aside provision of the CWSRF that requires that 20% of funds to be used for green projects under the Green Project Reserve (GPR). Suggested language:

“The CWSRF program is available to fund a wide variety of water quality projects including all types of nonpoint source, and watershed protection or restoration projects. CWSRF programs operate much like environmental infrastructure banks that are capitalized with federal and state contributions. CWSRF monies are loaned to communities at low interest rates and loan repayments are recycled back into the program to fund additional water quality protection projects. There is a portion of funding that is available to rural communities as loan/grant combinations where only a portion of monies received have to be paid back into the fund. The revolving nature of these programs provides for an ongoing funding source that will last far into the future.

Funds can be used for a variety of projects including those that address contaminated runoff from urban and agricultural areas, wetlands restoration, groundwater protection, and brownfields remediation. Projects that are eligible for 319(h) funds are also eligible for CWSRF funding. While all of the CWSRF is available for these types of projects there are often years where the federal government requires that at least 20% of the funding under this program be directed towards green projects. This requirement, referred to as the Green Project Reserve (GPR), requires that projects that address green infrastructure, water or energy efficiency improvements, or other environmentally innovative activities be given priority. Any municipality, county, incorporated county, sanitation district, water and sanitation district or any similar district, recognized Indian tribe or other issuing agency created pursuant to joint powers agreement action on behalf of any entity under state law which has jurisdiction over the disposal of domestic sewage industrial wastes or other wastes may apply for CWSRF monies.”

If legislation proposed during this legislative session passes, mutual domestics will be added to the list of entities that are eligible to receive funding. The CWSRF is administered by the Construction Programs Bureau (CPD) of NMED and of course all proposed language should be approved by them prior to inserting into the WQMP.

#### **B. The Green Project Reserve Should Be Mentioned In Other Sections Of The WQMP Where CWSRF Is Mentioned**

Where CWSRF funding and rating is mentioned the GPR funding should be mentioned as well. This includes section VI.B on page VI-I. Suggested language to include: “ During many years Congress mandates that at least 20% of all CWSRF funds be dedicated to green projects under the Green Project Reserve (GPR) program. The intent of the GPR is to prioritize funding to projects that address green infrastructure, water or energy efficiency improvements, or other environmentally innovative activities.” Amigos Bravos realizes that while this section of the WQMP/CPD does not involve direct funding for nonpoint source pollution control, GPR does apply to wastewater treatment facility upgrades as well. In fact, two GPR projects currently funded under CWSRF are for green infrastructure components of wastewater treatment facilities (Taos and Los Alamos).

There should also be mention of the GRP in section VI.4 where the rating process for CWSRF projects is outlined. Amigos Bravos suggests adding the following sentence as the second to last sentence of the first paragraph of section VI.4 “ In addition, on years when

Congress has mandated that 20% of CWSRF be used for green projects, it establishes a process for evaluating and rating green projects and green project components.”

### **C. Other Comments On WQMP/CPP**

In section II.C (Use of Hydrology Protocol), figure II-1 on page II-6, there should be an arrow from the Expedited UAA box to the "Classified New Segment" box or perhaps back up to the "Unclassified 20.6.4.98" box. In addition there should be language added that provides a definition of existing uses as “Existing uses are those uses actually attained in the water body on or after November 28, 1975, whether or not they are being attained” 40 CFR 131.3(e) and then clarifies that as per the Clean Water Act and associated regulations existing uses cannot be removed (40 CFR 1331.10(h)).

In section I.B there is no description of OCD’s roles and responsibilities under the WQMP. In section I.D there is no mention of the ability for a member of the public to request a public hearing on proposed updates to the WQMP.

## **III. HYDROLOGY PROTOCOL**

### **A. NEITHER THE HYDROLOGY PROTOCOL NOR THE EXPEDITED UAA PROCESS PROVIDES ADEQUATE DATA ABOUT 101(A)(2) USES**

#### **1. Determining The Hydrology Of A Stream Is Different Than Determining 101(A)(2) Uses**

A major flaw with the Hydrology Protocol (HP) is that it confuses determination of the hydrological status of a stream (perennial, intermittent or ephemeral) with 101(a)(2) uses. This confusion is demonstrated in the language of the HP itself. For example, the first sentence in the summary of the HP (page 3) states, "The Hydrology Protocol provides a methodology for distinguishing among ephemeral, intermittent and perennial streams and rivers in New Mexico". However, the first line of the second paragraph of the Summary (page 3) states, "The Hydrology Protocol was specifically developed to generate documentation of the uses supported by the hydrology of a given stream or river." While the HP does a fair job with directing the gathering of data to help determine whether a stream is ephemeral, intermittent or perennial (we have identified a number of concerns with this methodology as discussed below in other sections of these comments), the HP makes broad determinations about 101(a)(2) uses and even whether these uses can be supported, without any data. The HP does not direct gathering data that would allow determinations regarding 101(a)(2) uses. For example, the only way you can determine if the stream supports amphibian reproduction is to do appropriate surveys during the monsoon season. Amigos Bravos stands firmly in the conviction that the proposed HP, as written, outlines a process for determining only the physical characteristics of a stream, not to determine whether the stream can attain existing uses. While it may be useful as one piece of information in a UAA, especially if the flaws we identify below are fixed, the HP, in its current form, cannot possibly reach a rational or logical conclusion about 101(a)(2) uses.

#### **2. If A Primary Purpose Of The HP Is To Provide Data For Use Determination, Than The Timing Of The HP Survey Should Be Changed To Occur During Wetter Times Of The Year.**

It appears that a main purpose of the HP is to provide documentation of uses. Amigos Bravos believes this is the case both from conversations with NMED and from the language in the HP itself (see above). Ideally, use determination should be part of a separate UAA field study. While Amigos Bravos believes that something labeled as a Hydrology Protocol should not have a primary function of 101(a)(2) use determination, Amigos Bravos is aware that this is not the direction in which NMED has chosen to go. Instead NMED has chosen to include use determination as a primary function of the HP. Amigos Bravos believes it is logical to conclude that almost all parties that choose to use the HP to determine the hydrology of a stream segment in New Mexico will be doing so because of a desire to conduct a UAA and downgrade water quality standards, because simply determine the hydrology of a stream, by itself, does not lead to any regulatory change. If someone is going to go through the trouble and expense to conduct an HP survey they almost certainly are doing so because they want something more than just to know the stream is called “ephemeral” rather than “intermittent” or “perennial”. Those definitions by themselves do not mean much, as dictated by the Clean Water Act it is only the existing uses that are found in the stream that tell us what specific protections are appropriate. Most if not all parties who will be using the HP will be doing so as a step in the UAA process because the HP has been identified as the primary documentation for the Expedited UAA process and will most likely be used as such for any other UAA process. It therefore makes sense for the HP to focus on documenting uses as a primary function. Therefore, the recommended timing of the UAA should be conducted during wet periods when, if 101(a)(2) uses are occurring, they can be properly observed and documented. In many ephemeral streams such as arroyos and other drainages the geomorphology and lack of aquatic habitat precludes 101(a)(2) uses, even if moisture is present, so there is no risk of miscategorizing these streams. For example, to rely on trying to find dried casings of macro invertebrate during the dry months of the year to determine the absence or presence of aquatic life does not make sense when the survey could be conducted at a wetter time of year when documentation would be easier. There are species (anurans) that go through their whole life cycle during the couple of months of wetter periods of the year and therefore deserve warmwater aquatic life protections afforded under 20.6.4.98 NMAC even if the drainage is otherwise dry, and there is not evidence of the species, for a majority of the year. In addition, Amigos Bravos suggests changing the title of the Hydrology Protocol to “Hydrology Protocol for the Determination of 101(a)(2) Uses in Ephemeral, Intermittent, and Perennial Waters”.

### **3. It Cannot Be Assumed That All Ephemeral Streams Do Not Meet 101(A)(2) Uses**

Amigos Bravos is very concerned about the explicit and implicit assumption made in both the draft HP and the Expedited UAA Sheet that if a stream is identified as being ephemeral that it then therefore does not support 101(a)(2) uses. The HP and the Expedited UAA Sheet both refer to 40 CFR 131.10(g)(2) as a justification for this assumption. Yet 40 CFR 131.10(g)(2) simply states that uses can be removed if the State can demonstrate that “attaining the designated use is not feasible because natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use.” Clearly the regulations are not stating that 101(a)(2) uses cannot be met in ephemeral, intermittent, or low flow conditions, rather the regulations are stating that various low flow conditions could be a cause of non attainment of 101(a)(2) uses. If EPA, or the indeed the WQCC, interpreted this language to mean that ephemeral streams by their

very nature do not meet 101(a)(2) uses then why are all intermittent streams (also named in 40 CFR 131.10(g)(2)) given 101(a)(2) protections? In fact EPA has required that New Mexico protect all ephemeral streams with 101(a)(2) uses until such a time that a UAA is conducted that proves that these uses cannot be met. Therefore merely because a stream is ephemeral does not automatically mean that the stream does not support 101(a)(2) uses. This is why Amigos Bravos suggested during the Triennial Review to have two categories of ephemeral waters in the standards, one with warmwater aquatic life protections and one with limited aquatic life protections. Seeing as how this is not the case, it therefore follows that waters that hydrologically may more accurately fit the definition of “ephemeral” will be categorized under “intermittent”, which again makes the name (ephemeral, intermittent, or perennial) that is assigned to the stream less important than the uses that are documented in the stream. It is the absence or presence of existing 101(a)(2) uses that is important and, as outlined both above and below, the HP should be amended to ensure that the absence or presence of existing uses is better documented.

Some ephemeral streams will not support 101(a)(2) uses and it may be quite obvious in the field, if the appropriate assessment is done. However, to be able to state that a stream does not and cannot attain any of those uses, the assessment would have to meet the following:

- 1) The stream is truly ephemeral
- 2) The entire stream has been examined, including upstream perennial or intermittent connections, and downstream connections.
- 3) There is nowhere on the stream that water could puddle or pond (including stock tanks) long enough to support amphibian reproduction, peaclams, or aquatic snails.
- 4) There is no upstream connection to perennial or intermittent waters, or ephemeral waters that could support uses identified in #3 above.
- 5) There is no downstream connection that would allow fish to use the stream during high flows.
- 6) The downstream connection is not to a playa.
- 7) The stream is not, has not, and cannot be used for recreation, even by kids during high runoff. This probably requires surveys of local residents and people with long-term knowledge of the stream.

#### **4. The Hydrology Protocol And/Or The Expedited UAA Need To Solicit More Information About Existing Uses.**

Amigos Bravos is aware that the intention of both the national Clean Water Act and the NM Water Quality Act is to protect water quality for all existing uses of a stream, regardless of the stream’s hydrologic characteristics. The HP even in combination with the Expedited Use Attainability Analysis process outlined in Appendix 2, does not satisfy the rigors of a scientifically based Use Attainability Study (UAA) as required in Clean Water Act regulations at 40 CFR 131.10(g), (j) and (k) , in EPA’s Water Quality Standard Handbook at chapter 2.9, and EPA’s 1983 *Technical Support Manual: Waterbody Surveys and Assessments for Conducting Use Attainability Analyses* (EPA Number: 440486037). As outlined in all three of these references a use cannot be removed if it is an existing use. An existing use is defined as “those uses actually attained in the water body on or after November 28, 1975, whether or not they are



included in the water quality standards” 40 CFR 131.3(e). Neither the HP nor the associated Expedited UAA provides adequate analysis of existing uses. This, at a minimum, would involve speaking to local landowners and local, state, or federal land management representatives about historical (1975-Present) conditions of the stream. Land use practices (both current and historic) should be documented and their impact on the conditions of the stream should be examined. In addition, historic flow data could be collected if available, or the waterbody in question could be examined for signs that uses, that while they may not currently be occurring, occurred since 1975. By only examining the current conditions in the stream the HP/ Expedited UAA cannot make a determination whether the 101(a)(2) uses are existing uses.

Determining existing 101(a)(2) uses or if these uses could be supported is not a trivial matter. Some of the data/information needed in a UAA to be able to make a determination about currently supported or potentially supported 101(a)(2) uses includes:

- Are there any sections of the stream with surface flows (especially during the monsoon season) for long enough to support aquatic life?
- Are there any tinajas present in the stream?
- Are there any springs or seeps in/along the stream? If so, proper biological surveys need to be conducted.
- Are there any areas where water ponds (including stock ponds/dirt tanks) long enough to support aquatic life, including amphibian reproduction, peaclams, etc. (especially during monsoon season)? Note that peaclams are shellfish that are adapted to periods of desiccation if they can reach moist soil.
- What is the upstream and downstream connectivity? Are there perennial or intermittent waters upstream (ephemeral streams can act as travel ways for organisms, including amphibians, during flow events)? What is the downstream connection? Can fish move into the stream during flows (ephemeral streams are used by some fish during high water flows)? Does the stream connect to a playa? Intermittent and ephemeral playas are some of the most biologically productive in the State because of blooms of large brachiopods (shellfish), which support thousands of shorebirds and waterfowl. Reducing water quality in an ephemeral stream that feeds a playa may destroy the productivity of the playa.
- If there are areas of ponded water (above), there need to be proper surveys to determine if any 101(a)(2) uses are currently supported, including amphibian reproduction. These surveys will need to be conducted at the appropriate time of year, generally the monsoon season. Note that many ephemeral drainages contain stock ponds/dirt tanks, which support amphibian reproduction, including state and federal endangered species.
- Have local residents and others with potential knowledge been surveyed to determine historic biological uses or recreational uses? Do people drink from this stream or use the water for domestic purposes? Do livestock use the stream?
- If there are no current 101(a)(2) uses supported, data will need to be gathered to determine if the stream can support any of these uses. Water chemistry/quality results will certainly be a necessary as part of this determination.

Based on the HP and Expedited UAA Process as currently written, you cannot state conclusively that fish do not and cannot use the stream. The downstream connection has not been examined; appropriate sections of the stream have not been sampled during high water; water quality/chemistry data have not been collected. In addition, you cannot state conclusively

that shellfish do not and cannot use the stream. Proper surveys have not been conducted during proper conditions (i.e., wet season & flowing); the entire stream has not been examined; water quality/chemistry data have not been collected. Nor can you state conclusively that Wildlife do not use and cannot use the stream. The entire stream has not been inspected for potential habitat; proper surveys have not been conducted at the appropriate season; water quality/chemistry data have not been collected. Finally, you cannot state conclusively that recreation is not and cannot be supported by the stream. Residents and others with personal and/or long term knowledge of the stream have not been interviewed to determine if the stream is used or has been used. The entire stream has not been examined to determine if recreational use could be supported (ponds, pools, tinajas, etc.).

#### **4. The HP And The Expedited UAA Need To Solicit Data About Possible Future Attainment Of 101(A)(2) Uses.**

As outlined in a 2006 EPA Memorandum (attachment 1), "UAAs are meant to assess what is attainable, is it not simply about documenting the current water quality conditions and use." Therefore it is essential, as part of the UAA process to do a through analysis of what could be attainable in the water body in the future. This would involve examining the potential impact on the waterbody if land use practices were to change. For example would stream flow, aquatic habitat, or recreational opportunities be restored if impacts from land uses practices such as grazing in the riparian area or motorized recreation on or near stream banks were mitigated or stopped? This is an essential component of a Use Attainability Analysis that is not included in the proposed HP/Expedited UAA process.

#### **B. THE NEED FOR AN EXPEDIATED UAA PROCESS IS NOT ADEQUATELY IDENTIFIED AND DOES NOT OUTWEIGH THE SUBSTANTIAL IMPACTS TO PUBLIC PARTICIPATION.**

Amigos Bravos is not aware of the need for the expedited Use Attainability Process. NMED has not outlined a viable pressing reason for downgrading uses in a process that has less rigorous scientific requirements, appears to deny the public from appealing a weakening of water quality protections for up to 5 years, and circumvents the entity (Water Quality Control Commission) that is supposed to make water quality decisions in New Mexico.

NMED staff has expressed the need for this expatiated process as coming from NMED rather than other entities and resulting from concern that numerous streams would be placed on the 303d list because of incorrect use designation and associated resource drains due to the fact that all ephemeral streams are currently being protected under 20.6.4.98 NMAC. I would argue that this is an unfounded fear for several reasons. First, very few ephemeral streams are monitored; second, if an ephemeral stream is monitored it is not monitored more than once every 8 years due to NMED's monitoring cycle; third even if the stream were to be monitored and found to not be meeting water quality standards and thus placed on a TMDL schedule, those TMDL schedules are far enough out that if appropriate, a UAA could be conducted prior to drafting a TMDL and potentially wasting NMED resources. In fact, one could argue that NMED resources would be wasted more from implementing the HP and associated expedited UAA

process in an attempt to downgrade uses before monitoring occurs because this scenario could lead to UAAs being conducted on waterbodies that don't need or merit downgrading. Amigos Bravos' has two remaining concerns: first, the Department's proposal allows for waters to be downgraded before the Commission has an opportunity to review them; second, the proposal is confusing because it puts all waters that do not meet CWA 101(a)(2) uses under 20.6.4.97, thus implying that all ephemeral waters cannot meet fishable/swimmable uses. Each of these concerns is addressed in turn.

Amigos Bravos has ongoing concerns about the changes that were made to 20.6.4.15 NMAC during the Triennial Review. Specifically, the Department's proposal provides the Department, rather than the Commission, with the authority to change water quality standards; the Department's proposal grants the Department the power to effectively downgrade a water to the "ephemeral" category in 20.6.4.9—thereby eliminating the fishable/swimmable presumption mandated by the CWA—before the Commission has had a chance to approve the change. The power to change water quality standards, however, is reserved to the Commission by the WQA. N.M.S.A. § 74-6-4(D); *see also* N.M.S.A. § 74-6-9 (outlining powers of constituent agencies—notably absent is any inclusion of the power to change water quality standards; rather, NMED is granted the power to, "on the same basis as any other person, *recommend and propose* regulations and standards for promulgation by the commission" (emphasis added)).

Adding to Amigos Bravos' concern is that there is nothing in the standards to ensure that the Commission will have the opportunity to formally approve the changes in any sort of timely fashion. The proposal states merely that "the Department shall periodically petition the Commission" to review such changes. Although NMED has asserted that it would petition the Commission at least every triennial review, the proposal does not actually mandate that it do so. Even if they did, NMED only comes before this Commission for the triennial at the most once every four to five years. As a consequence, NMED's proposal gives NMED the power to treat waters as downgraded for years before the Commission is able to approve such an action. Furthermore, because NMED will not be protecting the water with the more protective standards, by the time the Commission reviews the change, the water may already be to the point where the higher uses are no longer supported. Amigos Bravos therefore strongly recommends that NMED rethink the need for an Expedited UAA process, and, at the very least adopt changes to the proposed expedited UAA process that would ensure the analysis adheres to federal regulations and guidelines and is more scientifically vigorous.

## **C. THERE IS TOO GREAT A RISK OF BIASED RESULTS UNLESS NMED CONDUCTS THE HP ANALYSIS**

### **1. To Avoid Bias and Ensure Consistency, One Entity, Preferably NMED, Should Conduct All HP Analyses**

Many of the judgments required when conducting the hydrology protocol are qualitative and subjective, and offer opportunities to bias the outcome. There is a need for consistency in the evaluations, which will only be achieved if NMED does the HP analysis. If an evaluation is done by industry with the intent to reduce water quality standards, it will still be necessary for NMED go into the field and inspect the stream to confirm the accuracy of the analysis. If special interest contractors do the assessment -- because they want to discharge to a stream, for example

-- we anticipate highly biased evaluations supporting the narrow aims of the contractor or his/her client, many objections to the conclusions, conflicting assessments undertaken by other parties, and expensive litigation. This drawn out process could arguably take longer than simply conducting a regular UAA. The only exception Amigos Bravos sees to NMED doing the HP analyses is if a known competent, unbiased consulting firm were required to do all the analyses. Amigos Bravos suggests starting with having NMED do HP analyses to ensure that they are done fairly and without Bias. Amigos Bravos doubts that there will be lots and lots of requests to do HP analyses since most current dischargers are creating perennial flows and therefore the streams into which they are discharging are not remotely eligible for downgrading.

## **2. Representative Reach Selection Is Particularly Vulnerable to Bias**

One of the areas that Amigos Bravos views as the most vulnerable to bias is how a representative reach is selected (detailed on pages 10-11). The HP directs selecting a representative reach for evaluation that is 40 times the average stream width or 150 meters, whichever is greater. This is supposed to represent the entire AU, which can be up to 25 miles long. Though the HP does indicate that if there are questions about the homogeneity of the AU then several reaches should be analyzed, it does not ensure that the reach(es) selected for analysis will be representative. Indeed, setting bias aside, Amigos Bravos believes it is very difficult, if not impossible, to select a 150 meter reach that adequately represents a 10-25 mile long stream AU in NM. In the mountainous northern part of the State, where some streams start in the alpine tundra and run through the spruce-fir, mixed conifer, ponderosa pine and pinyon-juniper zones, using one reach to represent a significant portion of an stream is likely not possible. In the more arid portions of southern NM there is less diversity yet it is still unlikely that 10-25 mile AU will be adequately represented by a 150-meter reach. While one might have a chance to select a reach to represent the flow characteristics of an AU, there is little chance of representing the biological characteristics, or determining 101(a)(2) uses in one small section of the entire AU. Further, the HP does not even require the reviewer to look at the entire stream! The HP states it is not feasible or practical, which is certainly not true. Chevron Inc., in their previous comments agrees that some sort of examination of the entire reach is necessary. They suggest a less intensive, larger scale observation of the drainage basin is appropriate; and several points within the AU should be examined (but not sampled) to determine the presence of flowing or standing waters. If you haven't looked at the entire stream, you can't know if your little reach is representative. The selection of a reach to represent the entire AU offers abundant opportunity to bias the results.

## **D. PAGE SPECIFIC COMMENTS**

### **1. Page 6 – Hydrology Protocol Should Not Be Referred to As Being Only Source of Information For An Expedited UAA**

On page 6 the HP states that the "The HP was designed to provide *the* necessary supporting documentation for an expedited UAA" (emphasis added). Unfortunately, it does not and cannot (unless substantial changes such as the ones recommend above are made) conclude that the stream does not and cannot support 101(a)(2) uses. The HP should not be the only data required for an Expedited UAA. As with a standard UAA, the HP should only be one of many tools supporting an Expedited UAA. To be able to state that a stream does not support fish,

shellfish, wildlife or recreation it will be necessary to gather the appropriate data, which will mean appropriate surveys following appropriate protocol. For example, some toads, genus *Bufo*, use temporary pools of water in streams for breeding. You must survey for eggs or tadpoles at the appropriate time and under the appropriate conditions to determine if toads use the stream. You are very unlikely to find evidence of toads breeding in a stream during the dry season, when it is recommended that the HP survey be conducted.

## **2. Page 9 – The GAP GIS Coverage Is Better Than The Recommended Omernik Coverage.**

The GAP Analysis coverages (NM State University) for Montane riparian, Lowland riparian, Arroyo riparian, and Marsh habitats in NM will be critical to the analysis and should be listed in the list of useful coverages provided on page 9. The Omernik Ecoregion coverage, which is listed, will be much less useful.

## **3. Pages 10 and 11 - There Should Be More Guidance About How To Define An Assessment Unit And A Survey Reach**

On pages 10-11 the HP provides some guidance about how to select a Assessment Unit (AU) and then, once an assessment unit is selected, how to select the survey reach(es). While Amigos Bravos has an understanding of AUs, I do not think many New Mexicans have a concept of AUs, therefore a clear definition should be provided in the document. Currently many names are used to describe both AUs and reaches and it is very difficult to sort out which is which. The stretch of stream on which the hydrology protocol is applied is referred to as the “assessment reach”, the “representative reach” and the “survey reach” interchangeably. In addition, the HP uses the terms “reaches” to refer to both AUs and Representative Reaches causing even more confusion. Amigos Bravos recommends providing clear definitions and uses of the phrases Assessment Unit and Survey Reach (or Representative Reach or Assessment Reach – it doesn’t matter what the term is as long as it is consistently used). Perhaps a graphic showing an example AU with survey reaches identified along the AU could be provided. In addition, as outlined in our comments in previous sections, the selection of a survey reach is highly vulnerable to surveyor bias and therefore more detailed guidance on how to choose a stretch should be used. For example Amigos Bravos suggests that NMED require that at least half of the Representative Reach fall in a stretch of the stream that appears to contain the most vegetation and signs of water as determined by aerial photos or GIS layers. Or, alternatively two survey reaches per assessment unit could be required and at least one of them should be randomly selected. Amigos Bravos has just concluded conducting 16 stream surveys ranging from 100 to 150 meters in length. The survey locations were selected randomly and if landowners denied access we conducted the survey at the closest point downstream from the randomly selected location that to which we were granted access. We suggest that the Department include these steps or other steps to protect against surveyor bias.

## **4. Page 11 – Photo documentation Of More Than Just The Survey Reach Should Be Required**

On page 11 the HP states that several photos should be taken of the “reach condition”. Amigos Bravos assumes that this means the survey reach on which the HP is being conducted. While Amigos Bravos certainly thinks that there should be numerous photos of the survey reach, it is important for photos to be taken of other parts of the AU. A requirement to photo document

different conditions along the entire AU should be added to the HP. Surveyors should be encouraged to look for places where there appears to be varied geomorphology (pools, riffles, tinijas) and for places where the riparian vegetation appears different (more trees, more greenery, different species composition etc.) and, if possible, to document these locations along the AU by taking photos.

#### **5. Page 13 - Speaking To Long Term Residents Must Be Emphasized To Determine Stream Flow**

On page 13, the HP states, "If there is no flowing water within 48 hours of a rain event, then the reach is more than likely ephemeral." This seems like a gross over simplification. Unless there is long-term stream gauge data, which is unlikely, the most important source of information on stream flow will be long-term residents. The HP needs to emphasize this and every effort needs to be made to find and interview people with long term information about the stream flow and its uses.

#### **6. Page 15. There Are Differences Between Vegetation In Ephemeral Drainages And Uplands**

On page 15 the HP states, "Ephemeral streams generally do not possess the hydrological conditions that allow true riparian vegetation to grow. ... Vegetation growing along ephemeral watercourses may occur in greater densities or grow more vigorously than vegetation in the adjacent uplands, but generally there are no dramatic compositional differences between the two. ... that vegetation does not require as much soil moisture as true riparian plants." Amigos Bravos believes that these statements are only partly true. The amount of moisture in the soil does affect the species of plants present but the soil along watercourses, including ephemeral drainages, tend to have more moisture and significantly different vegetation, species composition and density, from the surrounding uplands. The difference in species and density is very important to wildlife for both food and cover. Further, the quality of the water is important to the plants and the animals that depend on them. This difference is very important to 101(a)(2) uses. To say there is generally no significant difference in vegetation between ephemeral drainages and uplands is often, perhaps usually, not true.

Arroyo Riparian Habitat is the vegetation corridor along ephemeral streams. The habitat type was established by the GAP Analysis program at NM State University where they classified the vegetation types in NM using satellite imagery. Arroyo Riparian habitat is valuable for wildlife because of the generally greater density and diversity of plants, which provide more cover and food than surrounding areas. Because of this, arroyos are preferred travel corridors, as well as nesting, denning, feeding and resting habitat for wildlife and exhibit high wildlife abundance and species diversity when compared to surrounding uplands. Degrading water quality in arroyo riparian habitat degrades the habitat.

New Mexico has 678 extant vertebrate species of wildlife, excluding fish. Nearly half of these species (42%, 288 species) utilize "Arroyo Riparian" habitat. These 288 vertebrates include:

- 16 taxa classified as State and/or federal threatened or endangered
- 31 taxa classified as State and/or federal sensitive or species of concern
- 38 taxa classified as State "Species of Greatest Conservation Need"
- 27 game species
- 5 taxa endemic to NM (i.e., occur nowhere else in the world)

29 species listed as of cultural importance to Pueblo Tribes

**7. Page 16 - It Is False To Conclude That If A Stream Has Reached A Score Of Equal To Or Less Than 2 At This Point, That 101(A)(2) Uses Are Not Attainable.**

On page 16 the HP states "\*\*\*If the reach being evaluated has a score of  $\leq 2$  up to this point, attainment of Clean Water Act Section 101(a)(2) uses is not feasible." Amigos Bravos contends that this is a false statement. Even if the stream is ephemeral, it may support fish, shellfish, wildlife, and/or recreation. The HP, as proposed, does not provide the data to make this statement. While the HP assessment, as proposed, may encounter evidence to indicate the AU does support these uses, it cannot determine that it does not support these uses. To determine if the AU in question does (or does not) support any or all of these uses, biological surveys must be done at the wet time of year (not the dry season) and appropriate to the species (such as toads, peaclams, fish, etc.). Also, the entire stream needs to be examined to ensure that tinajas and/or intermittent or perennial flows do not occur on the stream. Further, the HP makes no effort to determine recreational use, which will require surveying local residents and people with long-term familiarity with the stream. If the stream does not contain current 101(a)(2) uses, an analysis of the water quality will be necessary to help determine if these uses could be supported. Because the HP does not include the appropriate conditions, protocols and methods to determine 101(a)(2) uses, or the potential to support these uses, logically it can not reach a determination that 101(a)(2) uses are not feasible at any point in the protocol, let alone at this point. For this statement to be true, various steps/questions (see suggestions under III.A.4 and 5 above) must be added prior to this point in the survey.

**8. Page 17 - The Value of Entrenchment Ratios is Questionable**

Amigos Bravos is very skeptical that this measure is meaningful. There are broad flat ephemeral drainages and deeply incised ephemeral drainages. Entrenchment seems to be more a result of the geology, soils and land management practices than the stream flow.

**9. Page 20 - It Is False To Conclude That If A Stream Has Reached A Score Of Equal To Or Less Than 5 At This Point, That 101(A)(2) Uses Are Not Attainable.**

On page 20 the HP states that: "\*\*\* If the reach being evaluated has a score  $\leq 5$  at this point, attainment of Clean Water Act Section 101(a)(2) uses is not feasible." This is not true. Comments under # 7 above apply.

**10. Page 27 - Bivalves Can Survive For Prolonged Desiccation**

On page 27 of the HP it states that: "Clams cannot survive outside of water, ... Since clams require a fairly constant aquatic environment in order to survive,..." This is not true. Peaclams which are bivalves and shellfish can withstand prolonged desiccation. They occur in waterbodies subject to seasonal drying (i.e., ephemeral and intermittent). They burrow in silt, mud, sand and gravel, and would be difficult to impossible to find live specimens during dry periods, although the tiny shells might be found by very careful study. Peaclams, family Sphaeriidae, are thought to have great potential as 'bioindicators' of pollution events in freshwater and to the toxicities of these pollutions (i.e., highly sensitive to pollution, not less sensitive).

**11. Page 28 - Absence Of Evidence Of Amphibians During The Dry Period Means Nothing**

All pooled water in the entire AU needs to be surveyed for evidence of amphibians and as mentioned above, surveys need to be conducted during wet periods. . Chevron appears to agree with this and states in their comments: "The amphibian section needs to be revised to reflect the actual requirements of amphibians potentially present. Several species of anurans require water to be present for only a short period (even < 2 weeks) to complete development from egg to adult. Some amphibians mature into terrestrial adult stages and therefore they are not necessarily indicative of a perennial or even intermittent system. Some of these species can successfully reproduce in ephemeral systems. Thus, the species and life stage of the observed amphibians should be identified and recorded." Amigos Bravos contends that this observation must occur during the time when amphibians are most likely to be present (i.e.- wet periods).

#### **IV. CONCLUSIONS**

Amigos Bravos thanks NMED for providing the opportunity to comment on the WQMP and associated HP. We encourage NMED to add language to the WQMP that details opportunities to use CWSRF funding for nonpoint source pollution control and for green infrastructure projects. In addition, we urge NMED to make substantial changes to the draft HP to ensure that existing and attainable uses are properly documented. Without the changes that we have outlined above in our comments we believe that the HP is a seriously flawed document that will facilitate the downgrading of water quality standards and the illegal removal of CWA 101(a)(2) uses. We welcome further discussion on our comments and concerns.

Sincerely,

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