April 18, 2013

Lynette Guevara, Assessment Coordinator
New Mexico Environment Department
Surface Water Quality Bureau
P.O. Box 5469
Santa Fe, New Mexico 87502

Dear Ms. Guevara:

The New Mexico Municipal League Environmental Quality Association (NMMEQA), a Subsection of the New Mexico Municipal League, appreciates the opportunity to review the draft assessment protocols for the 2014-2016 review period. The NMMEQA represents the 104 local municipal entities in the State of New Mexico in regards to environmental issues, with a particular focus on water quality protection. The NMMEQA offers the following comments for your consideration:

1. Section 1.0, page 4 of 39, 2nd paragraph and Section 2.1.1, page 7 of 39, first paragraph: NMMEQA requests that the Surface Water Quality Information Database (SQUID) be made available to the public online. Although the data are available upon request, such a system creates a barrier to looking at the data. Fulfilling data requests needlessly takes New Mexico Environment Department (NMED) staff time.

2. Section 2.1.1, page 7 of 39, Lab Qualifier Codes, J Qualified Data: J Qualified information should not be used for assessment purposes because this code implicitly implies that there is uncertainty in the concentration of the analyte reported and is more of an indication that the constituent is present but not quantified to any certainty. The example utilized by NMED in this Section makes a false assumption since method detection limits can often be pushed to lower detection levels by some laboratories than the level commonly accepted for the analytical method. NMED should not make an assumption that a constituent is present in a sample when the laboratory result is between the detection level and the quantitation limit (a J-flagged value) because the actual laboratory detection level will vary and may be below EPA approved detection levels.
3. Section 2.1.1, page 7 of 39, Lab Qualifier Codes, Exceeded Holding Times: Under the regulatory provisions of the Clean Water Act (CWA) and the National Pollutant Discharge Elimination System (NPDES) permit program, samples exceeding holding times do not meet the Environmental Protection Agency (EPA) approved analytical method and, therefore, cannot be used for permitting, compliance demonstration, or enforcement purposes. Since the NMED Assessment Protocol could lead to a determination of “impairment,” which could then lead to the issuance of new permit limits for NPDES point source discharges, and conceivably more controls on non-point source discharges, samples invalidated pursuant to the EPA approved method due to exceeded holding times should not be used for “assessment conclusions.” These outcomes could result in time expenditures, lost resources and treatment expenses well in excess of the hundreds of dollars that are lost due to a sample mishandled in any manner. NMED and EPA should be subject to the same sample validation rules that are applied to NPDES permits, monitoring performed by NPDES permit holders and actions taken pursuant to the CWA and federal regulations. Any decision to accept the analytical results obtained from a sample not meeting approved methodologies as contained at 40 Code of Federal Regulations (CFR) 136 is purely subjective and without technical or scientific validity, pursuant to EPA’s own rules and regulations.

4. Section 2.1.1, page 7 of 39, Lab Qualifier Codes, second paragraph: J flagged values for individual PCB congeners should not be used to sum the total PCBs. Values flagged with are “J” are below a level of accurate quantification and the reported numbers are estimates. Estimates should not be used to calculate a sum; particularly given the published criticisms of the accuracy of EPA Methods 1668A, B, or C.

5. Section 2.1.2, page 8 of 39, Figure 2.1and Section 2.1.6, page 10 or 39, fourth paragraph: Multiple samples taken within one (1) hour are considered “replicates” and the maximum value is selected to be conservative. NMMEQA requests that NMED add a step wherein the replicates are evaluated for how similar the values actually are. If the maximum value is an outlier and not in concert with the other values, it should be thrown out and not used in the assessment. With respect to aquatic life water quality standards the EPA recommends a “one hour averaging period” (page 19 of 39). It would seem more appropriate to calculate the average of multiple samples that have been determined to be representative of the one hour sampling period rather than selecting the maximum value. Further, Figure 2.1 is confusing: The second decision diamond refers to multiple samples taken within one hour. If there is an exceedance, use the maximum value as the data point. If there is not an exceedance the process leads to the third decision regarding the use of duplicates from Quality Assurance/Quality Control (QA/QC) sampling. The end point of this decision — either the “yes” or “no” branch are the same — multiple data points collected in one hour — because the first decision diamond limits the decision to only those data. Ultimately,
there is only one decision depicted in this three-step process - use the one data value
or use the maximum – so two of the three steps are unnecessary. As noted above, we
do not agree that the decision process depicted here is appropriate and request that
the average of samples collected within one hour be used in assessing data for the
human health criteria.

6. Section 2.1.7, page 12 of 39: Blank correction procedures other than the procedures in
the method should be peer reviewed before being approved by the SWQB QA Officer.

7. Section 3.0, page 13 of 39, first paragraph: The documentation showing how the
assessment units were established should be available online. This information is
useful for permittees to understand how the boundaries of specific assessment units
were developed.

8. Section 3.1.1.1, pages 14-16 of 39: This section states that there is a reference
condition that can be used for wadeable perennial streams in the Mountain
ecoregions. For streams located outside the Mountain ecoregions, assessment is to
be conducted using a reference site approach. The assessment protocol section
describes the reference condition approach and there is no further description of the
reference site approach. Please add a description of the reference site approach, as
this will be used more frequently than the reference condition.

9. Section 3.1.1.1, page 15 of 39, Table 3.1: The title of this table is “Metrics included in
the M-SCI”. However, the entries in the table are not specific to the metric. For
example, in the columns “Taxonomic Richness” and “Habitat”, there are references to
types of taxa, but the metric (present/absent, number, health) is not indicated.

10. Section 3.1.1.1, page 16 of 39, Table 3.3: The first row of this table (Macroinvertebrate
assemblages in Ecoregions 22, 24, 25, and 26) has only a 4% difference between
“fully supporting” and “not supporting” based on a single bioassessment. The natural
variability in the system cannot be considered in a determination based on 4%
difference. As stated on page 13 of 39, third paragraph, it is necessary to allow some
flexibility in this assessment procedure to account for “…uncertainties such as natural
variability of water quality, the lack of extensive data to make more definitive
assessments, and the transitory nature of many pollutants.” The determination of fully
supporting or not supporting should be based on multiple assessments and the
metrics used should be evaluated to give a broader numeric range between the two
categories.

11. Section 3.1.1.3, page 17 of 39, Fish Assemblages: Please change the last sentence to
read, “Therefore, biological assessment development efforts will be focused on cool
and/or warm water streams.”
12. Section 3.1.2.2, page 20 of 39, Figure 3.1: At Step 1, if there are not two or more sample results available within a 4-day period, the AU should be considered “Not Assessed” because there is insufficient data for the 4-day averaging period for chronic aquatic life. See the “No” box for Step 3 which says that if there are less than 2 data points, it is “Not Assessed”. Further, the arrow between the “No” box for Step 1 and Step 2 should be deleted, because if there are less than two sample results then one cannot have two or more exceedances in Step 2. Also, Step 1 results in an arithmetic mean of data collected within a 4-day period. Step 2 refers to “two or more exceedances of the WQS.” It is not clear how a single mean value can result in two or more exceedances.

13. Figure 3.2, page 26 of 39: This figure indicates that biological data are only considered if the chemical data do not indicate impairment. This appears to be inconsistent application of a weight of evidence approach. A weight of evidence approach would evaluate all data (chemical and biological) and make the support decision based on the health of the aquatic ecosystem. Section 3.1.6 of this document states that a weight of evidence approach will be used in assessments: “For aquatic life use assessments, it is possible that data of differing types may lead to differing use attainment determinations for the same assessment unit. For example, there may be chemical/physical data that indicate Not Supporting and biological data that indicate Fully Supporting. If more than two data types are available for assessment, a weight-of-evidence approach is adopted when chemical/physical data for conventional parameters indicate impairment.” The approach depicted on the figure should be corrected by removing the second decision diamond.

14. Table A-4, page 39 of 39: Whole Effluent Toxicity (WET) testing of effluent in effluent dominated channels should not be used in the assessment of aquatic life use attainment in the receiving water. The effluent that is a tributary is not representative of the water quality of the receiving stream. This is not “low quality” data, it is inappropriate use of data. The reference to WET results in effluent channel tributaries should be deleted from Table A-4.

15. Appendix C, Sedimentation/Siltation Assessment Protocol for Wadeable, Perennial Streams: This protocol fails to recognize critical aspects of the narrative standard and New Mexico geology. The narrative standard is:

Bottom Deposits and Suspended or Settleable Solids:
Surface waters of the state shall be free of water contaminants including fine sediment particles (less than two millimeters in diameter), precipitates or organic or inorganic solids from other than natural causes that have settled to form layers on or fill the interstices of the natural or dominant substrate in quantities that damage or impair the normal growth, function, or reproduction of aquatic life or significantly
alter the physical or chemical properties of the bottom. [emphasis added].

16. The phrase “from other than natural causes” should be a part of this protocol. In order to evaluate a stream for natural causes of sediments, an examination of the geological setting to determine the size of sediment that would be expected should be included. The sediment size in the Rio Puerco would be expected to be very fine, because of the fine-grained sedimentary nature of the underlying geology. The size of sediment in the Rio Santa Barbara would be expected to be more diverse and coarser overall because of the nature of the igneous and metamorphic underlying geology. The classified “reference sites” in the protocol are xeric, foothills, and mountains as if gradient is the only predictor of sediment size. While stream gradient is an important predictor, it is not the only predictor. This assessment protocol should be revised to include an initial step that includes a geologic evaluation.

17. Appendix D1, Nutrient Assessment Protocol for Wadeable, Perennial Streams: The narrative criterion in State of New Mexico Standards for Interstate and Intrastate Surface Waters found at 20.6.4.13 NMAC:

Plant nutrients from other than natural causes shall not be present in concentrations which will produce undesirable aquatic life or result in a dominance of nuisance species in surface waters of the state. [emphasis added]

Section 2.2 of the protocol states that a threshold approach using ecoregion numbers will be used for “most streams,” but allows a reference site approach if the assessor feels that these thresholds are not appropriate for the class of stream being assessed. This approach should be reversed — so that the reference site approach is used in most cases — in order to establish that any enriched nutrients are “from other than natural causes.”

18. Appendix D1, Nutrient Assessment Protocol for Wadeable, Perennial Streams, Table 4: The title of this table is: “Interpreting DO and pH Data”. However, there is nothing in this table that describes how the continuously recorded data is to be interpreted. NMED should describe the factors used in the determination. Factors such as: amplitude of the fluctuation, the value of DO and/or pH at a specific time of day, the maximum or minimum value measured, and an average over the period of measurement.

19. Appendix D2, Nutrient Assessment Protocol for Lakes and Reservoirs: This protocol should include an analysis for or definition of “other than natural causes.”
20. Appendix D2, Nutrient Assessment Protocol for Lakes and Reservoirs, Table 5: Secchi disk depth is influenced by how much the lake water has been disturbed. This protocol should include a step to evaluate the weather in days before the sampling (wind, rain, input from tributaries). It should also include an evaluation of the geology in the watershed to evaluate the size of sediment that might be expected in the lake or reservoir.

21. Appendix G, Turbidity Assessment Protocol for Coldwater Perennial Streams and Rivers: This protocol does not recognize critical aspects of the narrative standard and New Mexico geology. The first sentence of the State of New Mexico Standards for Interstate and Intrastate Surface Waters narrative criterion for turbidity is:

Turbidity: Turbidity attributable to other than natural causes shall not reduce light transmission to the point that the normal growth, function or reproduction of aquatic life is impaired or that will cause substantial visible contrast with the natural appearance of the water. [emphasis added]

In order to evaluate a stream for natural causes, an examination of the sources of turbidity should be included. This assessment protocol should be revised to include an initial step that includes an evaluation of natural sources of turbidity.

Again, the NMMEQA appreciates the opportunity to comment on the draft assessment protocols. NMMEQA is willing to provide additional clarification regarding concerns identified in this letter.

Sincerely yours,

Jane DeRose-Bamman
NMMEQA President