Alan C. Lloyd, Ph.D.
Agency Secretary

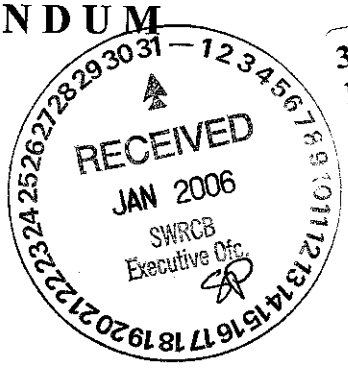
California Regional Water Quality Control Board
Lahontan Region

2501 Lake Tahoe Boulevard, South Lake Tahoe, California 96150
(530) 542-5400 • Fax (530) 544-2271
http://www.waterboards.ca.gov/lahontan

Arnold Schwarzenegger
Governor

MEMORANDUM

303 (d) Deadline:
1/31/06



TO: Craig J. Wilson
Division of Water Quality
State Water Resources Control Board

FROM: Harold J. Singer
Executive Officer
LAHONTAN REGIONAL WATER QUALITY CONTROL BOARD

DATE: January 31, 2006

SUBJECT: **COMMENTS ON STATE WATER BOARD STAFF RECOMMENDATIONS FOR LAHONTAN REGION WATERS IN THE 2006 SECTION 303(D) LIST UPDATE**

My staff and I have reviewed State Water Board staff's draft recommendations for changes to California's Clean Water Act Section 303(d) list of impaired surface waters as they affect the Lahontan Region. Many of these recommendations were developed in cooperation with my staff, and we thank you for the opportunity for input on preliminary drafts. We support the recommendations to delist a number of Lahontan Region water bodies or water body-pollutant combinations that do not meet current criteria for listing (staff report Volume 1, page 36). However, we disagree with several other recommendations, as discussed in the comments below. Also, we are providing water body fact sheets and supporting information for delisting one water and for listing three waters in the "Water Quality Limited Segments Being Addressed" category of the 303(d) list.

Use of OEHHA "Screening Value" Criteria

Several Lahontan Region waters are recommended to be listed (or to remain listed) due to Toxic Substances Monitoring Program (TSMP) fish tissue data that exceed Office of Environmental Health Hazard Assessment (OEHHA) "Screening Value" (SV) criteria. Fact sheets for other regions show that SV criteria are being used to define impairment statewide. These criteria appear to be substitutes for OEHHA's Maximum Tissue Residue Levels (MTRLs). MTRLs and Elevated Data Levels (EDLs) are two types of criteria that have been used to interpret TSMP tissue data in the past. The State Water Board's listing policy (Section 6.1.3.2) states:

"2. Evaluation Guidelines for Protection from the Consumption of Fish and Shellfish: RWQCBs may select evaluation guidelines published by USEPA or OEHHA. Maximum

Tissue Residue Levels (MTRLs) and Elevated Data Levels (EDLs) shall not be used to evaluate fish or shellfish tissue data."

Section 6.1.3 of the policy also calls for the use of multiple lines of evidence.

Based on the context and purpose of TSMP sampling, we interpret this section of the policy to mean that TSMP results should not be used as the sole reason for listing. During development of the listing policy, Total Maximum Daily Load (TMDL) Roundtable members, including Lahontan Water Board staff, repeatedly expressed concern that the TSMP was meant to be only a screening tool, and that TSMP sampling was not designed to be statistically representative of a given water body. A further difficulty with interpreting TSMP results in the Lahontan Region is that trout are often hatchery-grown plants, and tissue data from hatchery trout are not necessarily representative of ambient water quality conditions.

The reference cited in the State Water Board staff report for SV criteria is a 1999 OEHHA study by Brodberg and Pollock on San Pablo and Black Butte Reservoirs, in the Coast Range. This report is available online at: http://www.oehha.ca.gov/fish/pdf/Cx8258.pdf. It states (Section 5 on page 4):

"The Screening Value (SV) approach is recommended by USEPA (1995) to identify chemical contaminants in fish tissue at concentrations which may be of human health concern for frequent consumers of sport fish. The SVs are not intended as levels at which consumption advisories should be issued but are useful as a guide to identify fish species and chemicals from a limited data set, such as this one, for which more intensive sampling, analysis or health evaluation are to be recommended."

On pages 5 and 16 of this report, Brodberg and Pollock state that California SVs were calculated specifically for their 1999 study. California SVs were apparently not meant to have wider application. To our knowledge, SVs have not been approved as formal OEHHA criteria (in the same sense as Public Health Goals for chemical pollutants). If the State Water Board approves the use of California SV criteria as statewide listing factors, it will set a precedent and effectively mandate the use of these criteria by Regional Water Boards in future list update cycles. This contradicts the optional direction in Section 6.1.3.2 of the listing policy.

For the reasons outlined above, I believe that TSMP data and SVs should not be used in Section 303(d) listing for any water body unless and until:

- Additional tissue sampling has been done to verify the impairment;
- A fish consumption advisory has been issued by OEHHA or local government health authorities; and/or
- Impairment is corroborated by ambient water and/or sediment quality data.

Susan River

The State Water Board staff report (Volume 1, page 25 and Volume III, pages 16 and 17) recommends listing of the Susan River for mercury, based on four fish tissue samples collected in the TSMP. Mercury levels in two of these samples exceeded the OEHHA Screening Value criteria. In 2001, OEHHA staff contacted Lahontan Water Board staff to discuss the 1999 TSMP results for mercury in the Susan River. These results exceeded the MTRL then in effect (0.37 mg/kg, calculated by multiplying the California Toxics Rule standard for mercury by a bioconcentration factor). OEHHA was considering the need for a fish consumption advisory for the Susan River in 2001, but to date no advisory has been issued. We are not aware of any further studies of the river by OEHHA to confirm the need for an advisory. Because of the limitations of TSMP data and SV criteria discussed above, I do not believe that the Susan River should be listed for mercury until further studies have been done to verify impairment.

The most significant sources of mercury in the Susan River watershed are probably natural volcanic and geothermal sources. The State Water Board's listing policy is silent on the issue of natural sources. However, the Lahontan Water Board successfully made a case for delisting a number of "naturally impaired" water bodies during the 2002 list update cycle. Our Basin Plan (page 3-2) states:

> *"Controllable water quality factors are those actions, conditions, or circumstances resulting from human activities that may influence the quality of the waters of the State, and that may reasonably be controlled. ...*
>
> *After application of reasonable control measures, ambient water quality shall conform to the narrative and numerical water quality objectives included in this Basin Plan. When other factors result in the degradation of water quality beyond the limits established by these water quality objectives, controllable human activities shall not cause further degradation of water quality in either surface or ground waters."*

There was a short-lived 19th century gold rush in the Susan River watershed. We have no information on the extent to which mercury was used or discharged in connection with this mining. However, anthropogenic loads of mercury in the Susan River watershed are likely to be small in proportion to loads from natural sources, and TMDL development to control anthropogenic sources might not result in significant improvements in the levels of mercury in fish tissue.

Natural sources of mercury may cause high fish tissue levels in other parts of the Lahontan Region, and present similar problems for TMDL development and implementation. The State Water Board should take a comprehensive look at natural sources of mercury during its ongoing development of a statewide water quality objective for methylmercury. The implementation policy for the statewide mercury objective should provide direction on the need for Section 303(d) listing and TMDL development in situations where most or all sources of mercury are not controllable.

Mammoth Creek

Mammoth Creek was originally listed for "metals" as a result of TSMP samples showing elevated levels (EDLs) of silver and zinc in fish tissue. Elevated silver and nickel were also found in fish tissue samples from Hot Creek (the lower reach of Mammoth Creek). During the 1998 Section 303(d) list update cycle, State Water Board guidance provided the opportunity to delist waters that were listed only on the basis of EDLs in fish tissue. A number of Lahontan Region waters were delisted at that time. Mammoth Creek was not recommended for delisting in 1998 because of a concern that stormwater, as well as natural sources, might be contributing metals to the creek. Hot Creek was delisted for metals during the 2002 list update cycle.

The State Water Board staff report for the 2006 list update ("Do Not Delist Report", pages 554-555) recommends that Mammoth Creek be listed for mercury, based on the (1992) TSMP fish tissue data and the OEHHA Screening Value (SV) criteria. This is apparently meant as a clarification of the existing "metals" listing. We disagree with the proposed listing of Mammoth Creek for mercury, based on our concerns about the limitations of the TSMP and SV criteria, and on the probability that mercury in fish tissue and ambient water samples come largely or entirely from natural sources. (Our Surface Water Ambient Monitoring Program database includes several water samples collected by the U.S. Geological Survey [USGS] between 2001 and 2004 with total recoverable mercury concentrations exceeding California Toxics rule standards.)

Mammoth Creek is located within the volcanic Long Valley Caldera and is continuous with geothermally influenced Hot Creek. There was some 19th century gold mining in the Mammoth Creek watershed. The extent of mercury use in connection with this mining is unknown. Lahontan Region staff and USEPA staff recently collected three samples from a tributary of Mammoth Creek near an inactive mine. Results showed low levels of arsenic but no detectable metals in a suite of 17 metals analyzed.

As noted in our comments on the Susan River, above, any human sources of mercury in Mammoth Creek are likely to be small in proportion to natural sources, and TMDL development to control anthropogenic sources might not result in any significant improvements in the levels of mercury in fish tissue. The State Water Board should not list Mammoth Creek for mercury during the 2006 list update cycle, but should address mercury in waters of the Long Valley Caldera and other volcanic/geothermal areas in its forthcoming methylmercury policy. Further fish tissue studies and issuance of fish consumption advisories may be appropriate for Mammoth and Hot Creeks.

Aspen, Bryant and Leviathan Creeks

Lahontan Water Board staff has recently provided information and data to State Water Board staff (attached) that recommends moving Aspen, Bryant and Leviathan Creeks to the "Water Quality Limited Segments Being Addressed" category of the 303(d) list. These creeks are affected by acid mine drainage from the Leviathan Mine. In May 2000, the USEPA placed Leviathan Mine on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) National Priorities List, thus making Leviathan Mine a Superfund site. Since that listing, the USEPA has issued cleanup directives to the Lahontan Water Board, which

administers the site for the State Water Board and State of California (the State owns the mine site), and to the Atlantic Richfield Company, which is responsible for the liabilities of Anaconda Mining, the company that developed and operated the mine site. These directives have resulted in response actions reducing acid mine drainage to the creeks. The CERCLA process will ultimately require compliance with all applicable or relevant and appropriate requirements, including compliance with water quality standards. The site is in the Remedial Investigation/Feasibility Study stage of the CERCLA process. A Record of Decision that identifies the complete cleanup solution for the mine site is expected in 2010.

Bear Creek

The Lahontan Water Board received data and information on the biologic condition of Bear Creek from the Truckee River Watershed Council on January 30, 2006. The Watershed Council recommends maintaining the 303(d)-listing for sediment for this water. Lahontan Water Board staff had earlier submitted data and information to State Water Board staff recommending de-listing Bear Creek. Lahontan Water Board staff have not had the opportunity to assess the Watershed Council's submittal. We request the opportunity to comment on this new information prior to the State Water Board decision on listing or de-listing this water.

Bodie Creek

Bodie Creek is currently Section 303(d)-listed for "metals." Based on the results of an impairment verification survey, I recommend that the listing be refined from the non-specific "metals" category to "mercury." The survey is available online at: http://www.waterboards.ca.gov/lahontan/TMDL/Bodie_Creek/bodie_creek_project_report_12_04.pdf.

State Water Board staff's recommendations for Bodie Creek in the 2006 list are included in the "Do Not Delist" report (pages 551 and 552). The fact sheet does not cite the Lahontan Water Board report but concludes that Bodie Creek should "remain" listed for mercury due to fish tissue sample violations of OEHHA Screening Value Criteria. As stated in our comments for the Susan River and Mammoth Creek, we disagree with the use of TSMP data and SV criteria as the sole grounds for Section 303(d) listing. However, since the impairment verification report includes additional data, we believe that listing of Bodie Creek for mercury is appropriate. Our online report notes violations of criteria for several other metals but concludes that listing for these metals is not appropriate because they are from natural sources. For consistency with similar recommended changes in listed pollutants for Crowley Lake, Bodie Creek should be delisted for metals and listed for mercury. The fact sheets for these changes should be included in Volume III of the staff report rather than the "Do Not Delist" report.

Clearwater Creek

Lahontan Water Board staff has recently provided information and data to State Water Board staff (attached) that recommends delisting Clearwater Creek. Biological assessment of the creek indicates no impairment.

Crowley Lake

The State Water Board staff report proposes delisting Crowley Lake for nitrogen and phosphorus and listing it for dissolved oxygen and ammonia. Lahontan Water Board staff recommended this change. A University of California study of the lake showed that nutrients come mostly from natural sources, and that regionwide water quality objectives for dissolved oxygen and ammonia are being violated. (Crowley Lake does not have site-specific objectives for any of these constituents.)

Elevated ammonia and depressed dissolved oxygen concentrations are associated with eutrophic conditions in Crowley Lake. Eutrophication is in turn the result of impoundment of water with naturally high sources of nutrients. Therefore, we plan to develop site-specific objectives or other Basin Plan amendments that recognize and account for natural nutrient loading and the effects of reservoir management on the development of eutrophic conditions in Crowley Lake. We do not anticipate preparing TMDLs for nutrients or for dissolved oxygen and ammonia in this lake. However, it is appropriate to list Crowley Lake for these constituents until listing issues can be resolved through Basin Plan amendments.

Searles Lake

During the 2002 list update cycle, the Lahontan Water Board recommended delisting Searles Lake for "Salinity/TDS/Chlorides" because the salts were from natural sources. We also recommended listing the lake for petroleum hydrocarbons. The State Water Board delisted Searles Lake for salinity and decided not to list it for petroleum hydrocarbons because the Lahontan Water Board had a permit in place to control discharges from brine mining operations. Using the 2004 listing policy criteria, the State Water Board staff report now recommends that Searles Lake be listed for both pollutants, but in the "Water Quality Limited Segments Being Addressed" category.

The recommended listing for Salinity/TDS/Chlorides in the "Water Quality Limited Segments Being Addressed" category is appropriate, as the WILD beneficial use is not fully met at the lake. This is due to birds landing on brine ponds and drowning due to salt encrustation or dieing due to salt ingestion. The Department of Fish and Game has approved Searles Valley Minerals (the operator of brine mining operations at the lake) mitigation plan under Fish and Game Code Section 3005 that allows a certain level of unavoidable and incidental take of waterfowl. It may be appropriate to modify the WILD beneficial use designation of Searles Lake in the Lahontan Basin Plan to recognize this condition. The fact sheet for the "Salinity/TDS/Chlorides" listing (Volume III, pages 14 and 15) includes some typographical errors. Information from the fact sheet (pages 12 and 13) for the petroleum hydrocarbons listing was apparently copied and pasted

to the "Lines of Evidence" section of the salinity fact sheet. This information should be deleted and replaced with language on salinity.

Lahontan Water Board staff disagrees with the recommended listing of Searles Lake for petroleum hydrocarbons. Discharges of petroleum hydrocarbons at Searles Lake are no longer causing violations of water quality objectives or impacting beneficial uses. Information used in State Water Board staff recommendations is dated and does not reflect the current conditions.

Schedules for Completion of TMDLs

The State Water Board staff report (Volume I, page 70) includes recommendations for Lahontan Water Board TMDLs to be completed by 2008. Completion dates were apparently taken from the TMDL Planner-Tracker database. The schedules in this database are not current for Lahontan Water Board projects. As explained below, we no longer plan to develop TMDLs for many of the water bodies listed on page 70.

The proposed schedule includes our two completely approved TMDLs, for Heavenly Valley Creek and Indian Creek Reservoir. These TMDLs should not be included in the schedule for future work. Their inclusion could be confusing to the public, implying that completion is overdue. When the final Section 303(d) list and schedule are submitted to the U.S. Environmental Protection Agency (USEPA), they should include footnotes identifying all TMDLs that have been fully approved.

The following is a summary of our plans for the waters listed on page 70 that have not yet been addressed through completed TMDLs:

1. ***Ward and Blackwood Creeks.*** As indicated in the Lahontan Water Board's 2001 staff report for our 2002 list update recommendations, the loading of sediment and nutrients from Section 303(d)- listed tributaries of Lake Tahoe will be addressed through the pending Lake Tahoe TMDL. Separate TMDLs for listed tributary streams may be completed later (after 2008) if refinement of loading estimates is needed. If separate TMDLs are not needed, we will request that these streams be placed on the "Water Quality Segments Being Addressed" list, because they will be addressed through the Lake Tahoe TMDL implementation program.

   We intend to address violations of water quality objectives for iron in tributaries of Lake Tahoe by revising the objectives. (The current objectives are based on the drinking water Maximum Contaminant Level, rather than on site-specific monitoring data, and are violated even in a reference stream, General Creek.) Update of the objectives will require review of the scientific literature on iron cycling and beneficial use impacts, and consideration of the role of iron as a nutrient in Lake Tahoe. If the new objectives are set at levels monitored in the reference stream, some Tahoe tributary streams with disturbed watersheds may still be in violation. Iron TMDLs for such streams will be completed after 2015, if needed.

2. ***Bodie Creek.*** As noted in the comments above, the Bodie Creek listing should be changed from "metals" to "mercury." Our online impairment verification report recommends additional sampling, as funding and staff resources allow, to determine trends in mercury concentrations and locations of potential sources, and to facilitate assessment of remediation potential. We do not expect to develop a TMDL, or to consider addressing the Bodie Creek listing through other programs, until further sampling is done. If a TMDL is needed, it will be completed after 2008.

3. ***Bridgeport Reservoir.*** We currently plan to address the Bridgeport Reservoir listings by developing site-specific objectives and/or amending the Basin Plan to recognize the role of hydromodification and reservoir management in maintaining eutrophic conditions in the reservoir.

4. ***Truckee River.*** A review of monitoring data collected since this stream was listed for sediment shows that the Truckee River does not meet current criteria for listing. Recognizing that the Truckee River is threatened by discharges of sediment from stormwater runoff associated primarily with development, the Regional Board plans to designate the Truckee River watershed portions of Placer and Nevada Counties and the Town of Truckee as needing Phase II municipal stormwater permit coverage. We no longer plan to complete sediment TMDLs for this water. When the permit is in place, it will be appropriate to move this listing to the "Water Quality Limited Segments Being Addressed category of the 303(d) list.

5. ***Hot Springs Canyon Creek.*** Additional impairment verification assessment is needed for this creek. A TetraTech study of five creeks in the Bodie Hills did not assess any new information on this creek. The condition of the creek is unknown. TMDL development, if appropriate, will not occur until 2008, at the earliest.

6. ***Donner Lake.*** The impairment verification study for Donner Lake has not yet been completed, and we will not consider a schedule for TMDL development for the lake until study results are available. We expect the study to be completed within the year, and a recommendation for a TMDL development schedule or other appropriate action will be made at that time and can be reflected in the next 303(d) list.

7. ***Lake Tahoe.*** Our currently projected date for Lahontan Water Board action on Lake Tahoe sediment and nutrient TMDLs is 2008, rather than 2007. The implementation plan for this TMDL will depend on the Tahoe Regional Planning Agency's (TRPA's) pending revisions to its regional land use plan and Section 208 Water Quality Management Plan. TRPA expects to act on its own plans in late 2007. The TRPA action date will affect the schedule for Regional Board action on Basin Plan amendments for the TMDL.

8. ***Squaw Creek.*** Our current schedule calls for Lahontan Water Board action on the Squaw Creek sediment TMDL in April 2006, rather than 2005.

9. ***Susan River.*** The final report on the Lahontan Water Board's Susan River Toxicity Testing Project has recently been posted online at http://www.waterboards.ca.gov/lahontan/TMDL/Susan_River/docs/toxicityreport.pdf. This study did not associate observed toxicity with any specific pollutant, though certain pesticides were present where toxicity was identified. The Lahontan Water Board is working with the Department of Pesticide Regulation, pursuant to the Management Agency Agreement between DPR and the State Water Board, to address the detected pesticides. Unless and until a pollutant is implicated, we do not expect to develop a TMDL to address this listing.

In summary, the only TMDLs currently planned for Lahontan Water Board action between 2006 and 2008 are those for Squaw Creek and Lake Tahoe. We expect to address listings of additional waters between 2006 and late 2008 through methods other than TMDLs.

Discrepancies in Summary Tables

Table 5 on page 13 of Volume 1 of the staff report summarizes the total numbers of new listings and delistings recommended for each Region. It shows 8 new listings and 24 delistings for the Lahontan Region. However, there are different numbers in the full lists of recommendations. Six new listings are recommended for the Lahontan Region on page 25 of the staff report, and 22 delistings on page 36. The final tables should be made consistent with each other.

Two of the Lahontan Water Board's "new" listings are actually for completed and fully approved TMDLs. Two other listings (for Searles Lake and Mono Lake) are actually "relistings" of waters delisted due to "programs in place" in 2002. One new listing (of Crowley lake for DO and ammonia) is accompanied by a delisting (for N and P). These situations should be clarified through footnotes to the final draft Section 303(d) list that goes before the State Water Board.

Please contact Judith Unsicker of my staff at (530) 542-5462 or junsicker@waterboards.ca.gov if you have any questions about the technical or historical information summarized above. You may also contact me at (530) 542-5412 or Chuck Curtis at (530) 542-5460 if you wish to discuss these comments or our projected schedules for completion of TMDLs.

Attachments

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