California Regional Water Quality Control Board
Lahontan Region

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MEMORANDUM

TO: Katherine Mrowka, Chief
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FROM: Lauri Kemper, P.E.
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LAHONTAN REGIONAL WATER QUALITY CONTROL BOARD

DATE: April 1, 2010

SUBJECT: **COMMENTS ON "SYNTHESIS REPORT" FOR MONO BASIN RESTORATION AND MONITORING PROGRAM**

Thank you for the opportunity to review the January 2010 draft report titled "Mono Basin Restoration and Monitoring Program: Synthesis of Instream Flow Recommendations to the State Water Resources Control Board and the Los Angeles Department of Water And Power" (Synthesis Report). The report summarizes 12 years of scientific study and modeling carried out in response to direction in State Water Board Orders 98-05 and 98-07. It recommends changes in the instream flow prescriptions and monitoring programs for Mono Basin streams in those orders.

Lahontan Water Board staff did not review the annual reports and other preliminary reports on which the Synthesis Report is based. We have no technical comments on the fisheries studies or the flow and temperature models. We do have the following general comments on the recommendations of the report, assuming that the State Water Board may use them to propose revisions to Orders 98-05 and 98-07.

1. We are concerned about the potential impacts of proposed lower winter base flows in Lee Vining and Rush Creeks, and increased diversions from Lee Vining Creek on instream beneficial uses. The Synthesis Report indicates that, because of concerns about the effects of winter ice formation at lower flows, the Los Angeles Department of Water and Power (LADWP) is conducting winter monitoring this year. If this study shows potential adverse impacts, we recommend that modifications to the proposed flow prescriptions be considered. We also suggest that State Water Board staff review recent and ongoing

research by other parties on aquatic ecology in the Eastern Sierra as part of any update of the flow prescriptions. For example, there is a growing body of literature on climate change impacts in the Sierra Nevada in addition to the statewide modeling literature reviewed in the Synthesis Report.

2. The existing "Stream Restoration Flow" (SRF) prescriptions and the proposed "Stream Ecosystem Flows" (SEFs) both rely on flow management to restore more natural stream channel conditions, fish habitat and riparian vegetation. This approach contrasts with earlier structural and vegetative restoration measures which were only partially successful. The synthesis report notes that complete restoration of riparian vegetation to pre-diversion conditions under the existing and proposed flow regimes may not be feasible due to changes in floodplain elevations. The SEFs would involve increased diversions from Lee Vining Creek to maintain higher elevations and cooler temperatures in Grant Lake Reservoir, and allow summer spills from the reservoir to moderate temperatures in Rush Creek. There are uncertainties associated with the SEFs including the need for cooperation from Southern California Edison in managing flows from upstream hydroelectric facilities, and the LADWP's ability to manage the SEFs as precisely as recommended. We suggest that the State Board review the current "state of the art" floodplain restoration and revegetation methods, and consider the feasibility of active restoration in addition to flow management, whether or not the proposed SEFs are approved.

3. The Synthesis Report recommends continued but less intensive trend monitoring to document the progress of stream and riparian restoration. Specific suggestions are made for monitoring hydrology, geomorphology, riparian vegetation acreage, and trout habitat metrics. The only water quality parameters recommended for monitoring are water temperature and dissolved oxygen. We concur with the need for ongoing monitoring, and suggest sampling of additional water quality parameters such as nutrients that could be affecting aquatic habitat in Lee Vining and Rush Creeks, if these are not already being monitored by the LADWP. Water quality sampling to document the impacts of releases from Grant Lake on water quality and beneficial uses of Rush Creek (apart from temperature impacts) should also be considered. If maintaining the reservoir at higher levels leads to stratification, this could affect internal loading of nutrients and other constituents from the sediments to the water column. The 1993 Mono Basin Environmental Impact Report reported the mean concentration of arsenic at the Grant Lake outlet between 1940 and 1990 to be 10.80 micrograms per liter, with a range of 2 to 20 micrograms per liter The mean value exceeds the current drinking water standard. Impacts of flow management on arsenic concentrations in relation to fish health might need to be considered.

4. The Synthesis Report considers the expected change in the elevation of Lee Vining Creek as a result of proposed diversions (0.2 foot) not to be ecologically significant for benthic macroinvertebrates or trout. However, no detailed information on macroinvertebrates or their habitat is provided. We suggest that

periodic macroinvertebrate bioassessment be added to the trend monitoring program for the Mono Basin streams. Region 6's bioassessment consultant, Dr. David Herbst of the University of California, Santa Barbara, has developed indices of biological integrity (IBIs) for eastern Sierra streams. The final report on the IBI project was submitted in December 2009 and is available on Region 6's Surface Water Ambient Monitoring Program (SWAMP) web page. It includes assessment of stations on Rush and Lee Vining Creeks that were sampled in 2000. The IBIs emphasize sediment-related habitat metrics rather than water depth, and would provide an additional method of tracking stream restoration.

Lahontan Water Board staff would appreciate the opportunity to review future reports on the Mono Basin monitoring and restoration programs, and any proposed changes in Orders 98-05 and 98-07. Please contact Judith Unsicker of my staff at (530) 542-5462 if you wish to discuss these comments.

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