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UCDAVIS TAHOE ENVIRONMENTAL RESEARCH CENTER 291 Country Club Drive Incline Village, NV 89451 September 16, 2011 Mr. Jack Clarke, Chair Lahontan Regional Water Quality Control Board 2501 Lake Tahoe Blvd South Lake Tahoe, CA 96150 Dear Mr. Clarke and members of the Lahontan RWQCB, Please allow me to make a few comments regarding the Monitoring and Reporting Program contained as Attachment C in Order No. R6T-2011 (TENT) for NPDES No. CAG616001 – *Storm Water/Urban Runoff Discharges from El Dorado County, Placer County, and the City of South Lake Tahoe within the Lake Tahoe Hydrologic Unit*. By way of introduction, since 2002 I have served as the Science Coordinator for the Lake Tahoe TMDL for both California and Nevada, and have 33 years of experience studying water quality at Lake Tahoe. The technical advances that the TMDL science/technical team were able to make in understanding pollutant sources, quantifying numeric targets for load reduction, and providing input on pollutant load reduction opportunities are important cornerstones for the Tahoe TMDL that was recently signed. Board staff and the science team were able to work hand-in-hand to make this TMDL one of the most technically comprehensive programs on record. It was a proud day when your Board adopted the Tahoe TMDL and equally as proud when the Governor's of California and Nevada and the USEPA Regional Administrator signed the approval page during the August Tahoe Federal Summit. This feeling was underscored in a USEPA Region IX newsletter that stated "*The TMDL and its Implementation Plan are the result of a ten-year development effort funded by state and federal agencies. Both the scientific research and stakeholder input that underpin the final restoration plan are among the most advanced ever applied to a TMDL in the nearly 40-year history of the Clean Water Act.*" High praise indeed, and something to live up to! The Lake Tahoe TMDL received considerable national attention during its development and was recognized as a "cutting edge" approach to a very difficult problem. Quite honestly, the effort Lake Tahoe does not represent a 'garden variety TMDL' nor just another 'bean to be put in the jar' as the states try to comply with federal regulations. A very significant sum of public funds has already been spent towards efforts to restore Lake Tahoe and its watershed, and the TMDL report estimates that even a larger investment will have to be made in the future to reach TMDL targets. Consequently, this is the time that both states and the TRPA need to insure that the implementation of the Environmental Improvement Plan (EIP) to comply with the TMDL is approached with the same level of commitment and ownership that we had during the initial development of the TMDL. It is no time to rest on our laurels.	

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The purpose of my comments on the NPDES monitoring and reporting document is not to provide a detailed, revised plan. This would be beyond the scope of a comment letter, and as suggested below requires the input from more than just one commenter. During previous workshops on the TMDL, the Lake Clarity Crediting Program, and load reduction modeling tools, I was asked to participate by making public presentations on how the monitoring program would reduce the uncertainty of load reduction estimates. My strong opinion is that the use of these modeling tools to inform TMDL crediting – which is at the heart of the load reduction evaluation process – is not justified unless the right monitoring sites and the right data is collected to validate and periodically recalibrate the models. Without delving into the details at this time, I do not believe that the proposed NPDES language creates the monitoring plan that I was referring to during the public/stakeholder meetings. Given the non-traditional, yet sophisticated approach for developing credits through a data-supported modeling effort, it is imperative that stakeholders have confidence in this approach. A monitoring program that does not try to reach the same 'high bar' we used in the development of TMDL is likely to be problematic in the future. This is not to say that all the features of the current monitoring plan are inadequate, rather, this language should be used as a starting point. However, the present permit language does not provide an adequate justification for the stated monitoring requirements. For example, will the monitoring plan provide the level of statistical robustness needed track changes and evaluate progress; how effective are the models in doing their intended job; and is the plan sufficent to establish long-term trends? Since the time frame for the Clarity Challenge is 15 years and 65 years for the complete TMDL – tracking long-term progress is critical. The permit language does not really directly speak to these important issues. If meeting the Clarity Challenge will cost on the order of 1 billion dollars of targeted funding as suggested in the TMDL document, the Permit – which to my understanding is in place for five years – needs to explain what will come out of the monitoring effort in much more detail.	**REUTER R1:** The draft Permit Fact Sheet has been updated to include rational for proposed monitoring program components. The monitoring program is not expected to definitively assess model effectiveness or establish a program to statistically assess storm water quality trends. The draft requirements emphasize compliance monitoring based on condition assessments to confirm that on-the-ground field conditions are consistent with modeled variables and Permittee maintenance commitments. Draft water quality sampling is included to initiate needed catchment and management practice effectiveness sampling to support longer-term data collection needs described by the Regional Storm Water Monitoring Program (RSWMP).
A number of years ago, the USEPA Region IX requested and received funding from the Southern Nevada Public Lands Management Act to collaborate with Lahontan and NDEP to develop the Lake Tahoe TMDL Management System (TMDL MS). The goal of this project was to establish the framework from which TMDL progress could be evaluated and to coordinate existing and new monitoring programs in an adaptive management approach, i.e. if TMDL milestones were not being met, use the data to determine why not. My opinion (and I could be wrong) was that the TMDL MS would also serve as the entity that housed the pollutant reduction models and used monitoring data to revise and validate results. However, I do not see much or anything at all on the TMDL MS in the draft Permit. While I understand that different legal documents have their own purpose, there is a significant risk that stakeholders will not see the intended connections or in the worst case, invaluable connections can be lost unless the documents tell a complete story.	**REUTER R2:** The Lake Tahoe TMDL Management System is still under development and is not expected to be complete until late 2013. As such, the draft permit cannot describe how the proposed monitoring program will meet Management System needs. The RSWMP documents have well-articulated general storm water monitoring needs, and the proposed monitoring requirements emphasize the implementation of RSWMP priorities. The RSWMP guidance documents provide the details supporting the overall monitoring approach, and the draft permit has been edited to more clearly reference these supporting technical materials.
In summary, I request that the Board consider the following points in their upcoming deliberation on the NPDES Permit and the Lake Tahoe TMDL: 1. Attachment C (monitoring and reporting) should be written with a technically based explanation of why the particular monitoring design that is finally selected was selected; how will the monitoring information be used in a Lake Tahoe TMDL Management System; and how will the frequency of sampling, parameters, etc. help to insure that that TMDL progress on urban stormwater is being met.	

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While stakeholders can debate these issues, at least a logical pathway that explains the process will be available. As it stands now, the draft permit language simply too vague. This can lead to mistrust and other issues. While this level of draft permit language may (or may not) be common in other permits, keep in mind that the Lake Tahoe TMDL is not common; especially since it's ultimate success depends on stakeholder involvement. I my opinion, stakeholders need to see a transparent process with justification for actions based on science and principles of environmental conservation. 2. While I perfectly understand, and even support the point of view that many jurisdictions simply do not have the resources needed to implement a full monitoring program at this time, that is no reason why such a program should not be designed and have it stated that this is what the State of California would really like to see to help fulfill its charge in the protection Lake Tahoe. Policy should be based on sound principles, however, its implementation can not turn a blind eye to the economic realities. Given the current financial environment, it may not be possible to carry this out at the moment. I trust, that the citizen's of California can understand this distinction and that the Board can create a solution whereby the stakeholders are assured that there is a good environmental protection plan while acknowledging and accommodating for the current difficult financial landscape. 3. I would be willing to try to assemble a technical team comprised of university researchers, the environmental consulting scientists who developed the load reduction models and members of the local jurisdictions who have the responsibility for carrying out the monitoring plan. This would constitute a technical team that would then pass on alternatives and recommendations to staff from your Board and other TMDL agencies. The technical team would not be responsible for policy, rather we would provide scientific information. 4. Given the importance of the Lake Tahoe TMDL, I would also recommend that once the technical work is done and the policy decisions are made that that document be sent out for peer-review. Thank you for the opportunity to make these comments to the Board and I hope you will at least some of them helpful. My only goal is to promote the conservation of this unique resource and to insure that science can play any role it can is making sure that a large expenditure of pubic funds is done in the most prudent manner possible. Respectfully,  John E. Reuter, Ph.D., Research Professor University of California, Davis Associate Director – Tahoe Environmental Research Center jereuter@ucdavis.edu 503-304-1473	**REUTER R3:** The draft permit only addresses a portion of the urban uplands pollutant source in California (it does not include Caltrans contribution), and establishes specific requirements of the three Permittees that are directly related to assessing permit compliance. Condition assessment methods to verify treatment facility and roadway conditions provide a direct link to model input variables, and water quality monitoring requirements emphasize data collection to support ongoing validation and improvement of load estimation tools. A more comprehensive stormwater effort is needed to track TMDL implementation progress. Furthermore, TMDL implementation must also be tracked in urbanized areas in Nevada and for forest upland, atmospheric deposition, and stream channel erosion sources. The burden of developing and implementing such a program, however, does not lie with the Permittees alone. Furthermore, the NPDES Permit is not the appropriate document to describe the larger TMDL monitoring context or a broader monitoring plan for these urban jurisdictions that will not be required in this permit term. Water Board staff will develop a more inclusive, long range TMDL monitoring plan as required by the Water Quality Control Plan for the Lahontan Region. **REUTER R4:** Because Permit adoption is anticipated for December 2011, there is not sufficient time to convene the technical team as suggested prior to Permit adoption. However, Permittees are directly involved with stormwater research and monitoring efforts and are committed to ongoing engagement with relevant stakeholders to ensure that their monitoring efforts support larger research and management questions. Permittess will likely seek technical guidance and monitoring plan review. Water Board staff will work with you, the Permittees, and available experts to convene the suggested technical team if the Permittees deem such effort desirable. **REUTER R5:** See response 3 above.