

January 19, 2012

Ms. Carly Jerla, Co-Study Manager  
Colorado River Basin Water Supply and Demand Study  
c/o Ms. Pam Adams, LC-2721  
U.S. Bureau of Reclamation  
PO Box 61470  
Boulder City, NV 89006-1470

Dear Ms. Jerla:

On behalf of the organizations we represent, we are submitting these joint comments on the Colorado River Basin Water Supply and Demand Study that the Bureau of Reclamation is compiling. We would like to commend Reclamation for its ground-breaking efforts to incorporate into the study the potential impacts of climate change on basin hydrology. This is a complex issue that demands close attention from water managers and policy makers.

We are recommending important changes in the ways in which Reclamation presents in the study information on projections based on climate-change models. Our recommendations apply to the manner of presentation of this information in all subsequent interim reports and the final report. Our comments also highlight our concern about a weakness acknowledged by Reclamation in the analysis presented in the June 2011 Status Report.

First, we recommend that in presenting the results of projections based on downscaled global climate models [GCMs] Reclamation present separately the projections for each of the three emissions scenarios used in the study. In its June 2011 Status Report, Reclamation did not distinguish among the different scenarios and instead lumped together all the projections as a single Downscaled GCM Projected Scenario. This keeps the report from indicating how future conditions and river flows may vary depending on the levels of future emissions of heat-trapping gases. Our recommendation is that sub-results for the three emissions scenarios in the study be presented separately.

Scientific studies consistently show that climate-change impacts, both in general and on water supplies, are likely to be greater if future emissions levels are higher. These differences, and the extent of these differences, are highly important as the nation considers the potential impacts of climate change, the importance of avoiding them through emissions reductions, and the importance of preparing to address them through adaptation actions. For these reasons, the U.S. government's 2009 national assessment, *Global Climate Change Impacts in the United States*, consistently presents information on the different levels of impacts projected with different emissions scenarios. This is the same approach we recommend that Reclamation take. If higher future emissions are projected to cause greater impacts on Colorado River water supplies, the nation and especially those of us in this region need to know that.

As our recommendation suggests only a different way of presenting information that Reclamation has already obtained and has available, we do not believe that making this change would be burdensome.

Second, as Reclamation notes in Technical Report B, Water Supply Assessment, the analysis used in the study relies on methodology that appears to include significant errors in estimating the flow

of the Colorado River at Lees Ferry. Section 10, Status and Next Steps, states that an effort to validate the VIC hydrology model used in the study by using it to look backward at the 1950-1999 period produces a modeled streamflow for that period that is 5 percent higher than the actual flow for the period. The VIC model, in short, seems to overestimate streamflow. On the other hand, a similar attempt to use the 112 projections from the global climate models to look backward at 1950-1999 shows that the average of the results from those model runs underestimates streamflow. We understand that Reclamation has now introduced a second bias correction to compensate for these errors in its analysis. We simply wish to highlight the obvious importance of these errors and to urge Reclamation to continue working to assess and resolve them to the extent possible as the study goes forward—and to fully and prominently explain all this in the final report. To the extent that these errors cannot be corrected in this study because of time and budget limitations, we urge Reclamation to make that very clear in the report and to continue to work on resolving these underlying errors in the future.

Thank you for considering our recommendations.

Sincerely,

*John Gale*

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Regional Representative  
National Wildlife Federation

*Eric Kuhn*

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General Manager  
Colorado River Water Conservation District

*Stephen Saunders*

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*Marc Waage*

Marc Waage  
Manager of Water Resource Planning  
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cc: Anne Castle, Assistant Secretary for Water and Science  
Michael L. Connor, Commissioner, Bureau of Reclamation