July 20, 2010

Mr. Ray Alvarado, Section Chief
Water Information Section
Colorado Water Conservation Board
1313 Sherman Street
Denver, Colorado 80203

Re: Comments on the Colorado River Water Availability Study (CRWAS) Phase I Report (Draft)

Dear Mr. Alvarado:

With this letter, we at the Western Water Project of Trout Unlimited would like to provide comments on the Colorado River Water Availability Study (CRWAS) Phase I Final Report (Draft).

The Colorado River Water Availability Study (CRWAS) can play an important role in Colorado's water resources management and planning processes. By developing and providing essential information on Colorado's water needs and supplies, CRWAS can serve as a fundamental element in the decision process for the management of Colorado's water for both consumptive and non-consumptive uses.

Although the objective of CRWAS is appropriate and the general approach of the study appears to be reasonably formulated, there are several aspects of Phase I which limit the usefulness of its findings. Most of these concerns can be addressed through the work to be done in the planned Phase II of CRWAS, and it is consequently important to move ahead with Phase II so that the overall objectives of CRWAS may be attained.

We suggest that the following issues be addressed in upcoming CRWAS activities:

1. **Conditional Water Rights, Full Utilization and Potential Expansion of Trans-basin Diversions**

   The characterization of Trans-basin exports from the Colorado River Basin to the Front Range does not completely consider issues associated with full utilization of both

absolute and conditional water rights held by Front Range water users, and of potential new projects for water exports from the Colorado River Basin. Given the likelihood of changes in Trans-basin exports (some of which are named in the Identified Projects and Processes efforts of the IBCC), and their probable impacts on CRWAS findings and conclusions, further refinement is essential.

2. **Climate Change Impacts on Front Range Water Demands**

Front Range climate changes may have significant impacts on Front Range water supplies and demands, with related consequences for Colorado River Basin exports. Such climate change impacts should be considered in a manner consistent with that used to evaluate climate change consequences for water management in the Colorado River Basin. The CRWAS evaluation should take into account the possibility of related increases in Front Range municipal and agricultural/irrigation demands and diminished native Front Range water supplies, and identify probable corresponding changes to demands for water exports from the Colorado River Basin.

3. **Use of the Hydrologic Determination (HD) Procedure**

The Hydrologic Determination (HD) model used in the CRWAS analysis depends on assumptions which imply sufficient storage (in appropriate locations) and infrastructure to utilize all water available to Colorado under the compact – a scenario which differs greatly from present conditions. While it may be appropriate to move ahead with the CRWAS analysis on this basis, the assumptions can lead to misleading conclusions regarding the amount of water available under existing and realistic future water infrastructure development scenarios. The limitations and constraints of the HD analysis in this respect should be clearly identified, and their significance to CRWAS findings should be described.

4. **Consideration of In-Stream Flows**

CRWAS Phase I does not give adequate consideration to Colorado's in-stream flow needs for environmental and recreational purposes. In addition to existing flow programs designed to address threatened and endangered fish species, there are many presently decreed water rights for in-stream flows. The probable establishment of future in-stream flow rights and requirements in a wide range of geographic locations, both in the Colorado River Basin, and in Front Range locations which could impact Colorado River exports, should be explicitly addressed in CRWAS.

5. **Presentation of CRWAS Phase I Findings of Colorado River Water Availability**

   A useful and informative presentation of some CRWAS Phase I findings (and of other studies) is provided in Figure 3-37. On this figure, water available for future consumptive use in Colorado with the "Alternate Climate Projections - 2040" hydrology is shown as ranging from 0 to 1.0 MAF. It would be useful to clarify whether the "dry end" of this range indicates that supplies are already in deficit, or insufficient, under present levels of water development. Such a determination would be of obvious interest to those concerned with Colorado River water management, and the potential significance of such a finding should be discussed to ensure that it is properly understood by the CRWAS audience.

We believe that CRWAS can be of great value in Colorado's efforts to move ahead with its water management and planning, and that Phase I is a major step in the right direction, with significant accomplishments. A significant additional degree of effort is, however, necessary to achieve the desired objectives of CRWAS, and to deal with the issues identified in our comments.

We therefore encourage the State to move ahead with Phase II of the Colorado River Water Availability Study in order to realize the full benefit of this useful and worthwhile project.

Sincerely,

John H. Gerstle
Technical Advisor
Trout Unlimited
Western Water Project