

**Water Supply Reserve Account – Grant and Loan Program  
Water Activity Summary Sheet**

**Applicant:** Clear Creek County on behalf of Upper Mountain Counties Water Needs Consortium

**Amount Requested:** \$174,350 (\$43,587 - Metro and \$130,763 - South Platte)

**Water Activity Name:** Upper Mountain Counties Water Needs Assessment

**Source of Funds:** Metro and South Platte Basin Accounts

**Matching Funds:** \$8,070 in in-kind contributions

**Water Activity Purpose:** Study or analysis of a consumptive activity

**County:** Park, Jefferson, Clear Creek, and Gilpin

**Drainage Basin:** South Platte

**Water Source:** Fractured and faulted bedrock aquifers in the upper South Platte basin

**Water Activity Summary:**

In March, 2008 four upper mountain counties in the South Platte River basin head waters formed the Upper Mountain Counties Water Needs Consortium by MOU. The purpose of the Consortium is to “perform a study to accurately identify water needs, available water supplies and any shortages that may exist in the Upper Mountain Counties and identify projects and or actions that may be need to address any shortages ...” The Upper Mountain Counties Water Needs Consortium consists of the four upper mountain counties in the South Platte River basin head waters, Park, Jefferson, Clear Creek, and Gilpin counties. The study area is that part of Jefferson County that is mountainous, that part of Park County east of Kenosha Pass, all of Clear Creek county, and all of Gilpin county. Clear Creek County has been designated as the Consortium’s agent to apply to the Roundtables and manage the contracts.

*Overview of the Water Activity*

The main purpose of this analysis is to determine the long term availability of ground water in the fractured and faulted bedrock aquifers in the study area and evaluate if the use of ground water at buildout for the four county study area can be sustained. The study will use information on precipitation in the study area from 1950 to the present, recharge related to this precipitation, and increased use of ground water as the area has developed to take into consideration a range of hydrologic variation over the period which included wet, average, and dry periods of precipitation.

The Upper Mountain County Water Needs Assessment and Water Supply Analysis will provide a more accurate assessment of the water needs of the study area which is highly dependent upon ground water in fractured and faulted bedrock aquifers. The area has been developed and subdivided into thousands of lots relying on on-lot wells and on-lot sewage disposal systems. Many of the lots were created prior to May, 1972 when the 1972 Land Use Act was enacted (SB-35). The owners of these lots pre-1972 are entitled to have a household use only well under a presumption of no injury to other vested water rights (CRS 37-92-602). If all of these lots are improved and homes constructed on them, there is the potential of having water supply issues related to sustainability and water quality. This analysis will assist the counties in determining if potential problems could result from the buildout of all the platted lots and if they need to take action to reduce the potential problems in areas where they can occur. The study will also look at recharge potential for these bedrock aquifer systems using information from a recent USGS study in Jefferson County in the Turkey Creek Watershed. Water supply needs, water consumptive use, return flows from on-lot sewage

disposal systems, and recharge from precipitation will be presented in GIS maps showing areas of sustainability and areas where there could be a decline in aquifer levels or water quality.

### *Threshold and Evaluation Criteria*

The application articulates how the project meets all four Threshold Criteria.

### *Funding Overview*

Grant funding is being requested from both the Metro Basin Account (\$43,587) and the South Platte Basin Account (\$130,763). One of the four counties falls partially within the Metro Roundtable boundaries, thus ¼ of the funding is being requested from the Metro Basin Account. Funding from the WSRA constitutes 100% of the actual project cost; however, the Consortium is providing \$8,070 in in-kind contributions (GIS Data).

### **Discussion:**

This analysis builds on SWSI and the South Platte and Metro's working Basin-Wide Water Needs Assessment and meets an important need identified by the South Platte Basin Roundtable. SWSI included estimates of water demands in the South Platte River Basin through 2030. While SWSI provided a valuable coarse assessment of water demands for the municipal, industrial, and agricultural sectors, concerns were raised by representatives of the four Upper Mountain Counties (UMC) to the South Platte River Basin Roundtable (Park, Jefferson, Clear Creek, and Gilpin) that the analysis did not properly consider the water supply demands and available water resources for that part of the basin. The South Platte Basin Roundtable has agreed that further analysis of the Upper Mountain Counties is critical to developing their Basin Wide Water Needs Assessment.

Specifically, Park, Clear Creek, Gilpin, and a portion of Jefferson County have been primarily populated in the foothills and mountains through subdivision lots where residences have been built relying on on-lot domestic wells serving each home and with on-lot sewage disposal systems. The water supply issues related to current and future populations relying on these on-lot systems will be more thoroughly evaluated and water providers to areas not relying on on-lot systems will be contacted and their needs and supplies evaluated.

The objectives and associated tasks of the analysis are to:

1. Interview the UMC counties to determine current and projected populations and the status of current platted lots as to existing uses and projected uses to 2050 in the study area.
2. Interview UMC water providers for current and future water demands to 2050 including water demands related to recreation and tourism.
3. Identify existing lots (improved or unimproved) that may rely on domestic and commercial wells and estimate the water demand related to these lots based on various build-out assumptions.
4. Evaluate existing information on geology and precipitation for the mountain counties in order to estimate the amount of aquifer recharge from precipitation that is available for evaluating long term sustainable water supplies.
5. Assess the long term sustainability of the various aquifer systems in the mountain counties taking into consideration recharge and water demands related to current and future water needs.
6. Identify any water demands related to tourism resulting from future recreational projects such as ski or snow boarding areas.

This analysis is important for the Metro and South Platte Basin Roundtables to develop their basin-wide water needs assessments. It will accurately identify water needs, available water supplies, and any shortages that may exist in the Upper Mountain Counties and identify projects and or actions that may be needed to address any shortages to areas on community water supplies or areas where depletions of the aquifer systems

may be occurring or expected to occur. This information, integrated with SWSI, will give both Roundtables a better assessment of their water needs.

This analysis will also assist the four counties in having a better understanding of the impacts of growth related to the buildout of existing platted lots many of which were created prior to the 1972 Land Use Act. This legislation resulted in an orderly process to subdivide land and to show that the water supply for the proposed subdivision is dependable, both physically and legally, and that vested water rights would not be injured.

**Issues/Additional Needs:**

The applicant states that this analysis will assist the four counties in having a better understanding of the impacts of growth related to the buildout of existing platted lots. Please further describe how the counties may use this information to address groundwater sustainability issues.

The intergovernmental agreement establishing the Upper Mountain Counties Water Needs Assessment Consortium provided in the application has signatures of two of the four counties. Please confirm that Jefferson County and Park County are members of the consortium.

Tasks 1 and 2 include population estimates and water demand projections to 2050. CWCB is currently projecting water demands to 2050 statewide. Please describe how the demand projections performed in this analysis will compliment the 2050 projections statewide.

The budget has line items for “other direct costs” (ODCs). Please describe what ODCs include.

**Staff Recommendation:**

The application is well prepared and the proposed project furthers the Metro and South Platte Basin Roundtable’s needs assessment. It also helps addresses a critical water supply need in the basin. Staff recommends approval of up to \$43,587 from the Metro Basin Account and \$130,763 from the South Platte Basin Account to complete the Upper Mountain Counties Water Needs Assessment contingent on resolution of the item in the issues/additional needs section.

All products, data and information developed as a result of this grant must be provided to CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and will help promote the development of a common technical platform.