# STATE OF COLORADO


## Colorado Water Conservation Board
### Department of Natural Resources
1313 Sherman Street, Room 721
Denver, Colorado 80203
Phone: (303) 866-3441
Fax: (303) 866-4474
www.cwcb.state.co.us




TO: Colorado Water Conservation Board Members

FROM: Greg Johnson,
Water Supply Planning Section

DATE: May 4, 2012

SUBJECT: **Agenda Item 17, May 15-16, 2012 Board Meeting**
**Water Supply Reserve Account Program**

**Staff Recommendation**

A summary of staff's recommendation for each WSRA application is provided in the table below. Favorable recommendations may be contingent on providing the CWCB with additional information, clarifications, or modifications in the scope of work. Please refer to the Water Activity Summary Sheets contained within this agenda item to find a summary of staff's review and any conditions associated with each recommendation.

| | Basin | Project Name | Total Request | Recommendation |
|---|---|---|---|---|
| a. | Arkansas | Groundwater Quality Study, Phase 2 - Upper Black Squirrel Creek Alluvial Aquifer | $35,000 | To fund up to $35,000 from the Arkansas basin account. |
| b. | Colorado | Eagle River Watershed Council - Colorado River Inventory and Assessment | $30,000 | To fund up to $30,000 from the Colorado Basin Account. |
| c. | North Platte | Jackson County Water Conservancy District - Structures for Water Control: Headgates and Diversion - Additional Funds Request | $55,055 | To fund up to $55,055 from the North Platte Basin Account. |

**Background**

For this agenda item the Board is provided with a brief overview of applications to the Water Supply Reserve Account (WSRA). Attachments to this memo include:

- Summary spreadsheet detailing funding requests for the basin and statewide accounts;
- Water Activity Summary Sheets which provide an overview, discussion, issues/additional needs, and staff recommendation regarding funding, partial funding, or not funding the applications; and
- Copies of the full applications, Basin Roundtable approval letters and any supporting documentation provided by the applicants.

Staff's review of the applications involves the following steps:

1) Applications are reviewed for completeness based on the information requirements, which are primarily outlined in Part 2 of the Criteria and Guidelines (C&G).
2) Applications are reviewed to verify that the water activity meets the **eligibility requirements** in Section 39-29-108 (III) C.R.S. (C&G, Part 2) and the **threshold criteria,** which are based on the requirements of Section 39-29-108 (III) C.R.S., and two sections of the Water for the 21st Century Act (House Bill 1177); Section 37-75-102 and Section 37-75-104(2)(c) (C&G, Part 3). Staff also verify that the applicant was an **eligible entity** to receive funding (C&G, Part 2).
3) Staff then prepares the Water Activity Summary Sheet which documents the outcome of the review process and contains staff's recommendations.

**Water Supply Reserve Account Balance Summary and Project Status Report**

To provide the Board updates on the status of specific Water Supply Reserve Account grant applications and projects, staff provides a status report in the CWCB Director's Report. The WSRA status report includes the following information:

- List of completed WSRA projects;
- List of WSRA projects in progress; and
- List of WSRA projects in the contracting and procurement process.

## Water Supply Reserve Account Applications for Consideration at the CWCB May 2012 Board Meeting

| Basin | Applicant | Name of Water Activity | Date Received | CWCB Meeting | Basin Account Request | Statewide Account Request | Total Request |
|---|---|---|---|---|---|---|---|
| Arkansas | El Paso County | Groundwater Quality Study, Phase 2 - Upper Black Squirrel Creek Alluvial Aquifer | 3/14/2012 | May-12 | $35,000.00 | $0.00 | $35,000 |
| **Arkansas Basin Total Requests** | | | | | **$35,000** | **$0** | **$35,000** |
| Colorado | Eagle River Watershed Council | Colorado River Inventory and Assessment | 3/26/2012 | May-12 | $30,000 | **$0** | $30,000 |
| **Colorado Basin Total Requests** | | | | | **$30,000** | **$0** | **$30,000** |
| North Platte | Jackson County Water Conservancy District | Structures for Water Control: Headgates and Diversion - *Additional Funds Request* | 3/14/2012 | May-12 | $55,055 | **$0** | $55,055 |
| **North Platte Basin Total Requests** | | | | | **$55,055** | **$0** | **$55,055** |
| **Water Supply Reserve Account Total May Requests** | | | | | **$120,055** | **$0** | **$120,055** |

# COLORADO WATER CONSERVATION BOARD
# Water Supply Reserve Account - Balance Summary
### April 12, 2012

## Fund Appropriation and Receipts

| Fiscal Year | Legislative Appropriation | Funds Received | Statewide Account | Basin Account |
|---|---|---|---|---|
| **2006/2007** | $10,000,000 | $10,000,000 | $5,500,000 | $4,500,000 |
| **2007/2008** | $6,000,000 | $6,000,000 | $4,200,000 | $1,800,000 |
| **2008/2009** | $10,000,000 | $7,000,000 | $4,300,000 | $2,700,000 |
| **2009/2010** | $5,775,000 | $5,775,000 | $4,215,750 | $1,559,250 |
| **2010/2011** | $6,000,000 | $6,000,000 | $4,380,000 | $1,620,000 |
| **2011/2012** | $7,000,000 | $7,000,000 | $4,732,000 | $2,268,000 |
| **Interest - Jan 2012** | N/A | $2,191,233 | $2,191,233 | $0 |
| **TOTAL** | $44,775,000 | $43,966,233 | $29,518,983 | $14,447,250 |

Note: The WSRA is a Severance Tax "Tier II" program with 40% of funds distributed on July 1, 30% on January 1, and the final 30% on April 1.
In FY 2008/2009 the final 30% installment of $3,000,000 was not received due to the State's budgetary shortfall.
***In January 2012 interest for the program from its inception to date was credited directly to the Statewide Account.***
***Interest from January 2012 on will be regularly calculated by the Treasury and credited to the Statewide Account.***

## Fund Distribution

| Basin | Approved Basin Grants | Total Basin Funds | Basin Account Balance | Approved State Grants | Statewide Account Balance |
|---|---|---|---|---|---|
| **Arkansas** | $1,280,767 | $1,605,250 | $324,483 | $4,200,965 | |
| **Colorado** | $1,102,250 | $1,605,250 | $503,000 | $2,410,043 | |
| **Southwest** | $1,314,946 | $1,605,250 | $290,304 | $4,463,966 | |
| **Gunnison** | $1,282,322 | $1,605,250 | $322,928 | $1,691,913 | |
| **Metro** | $1,089,929 | $1,605,250 | $515,321 | $1,925,268 | |
| **North Platte** | $1,037,483 | $1,605,250 | $567,767 | $311,027 | |
| **Rio Grande** | $1,342,365 | $1,605,250 | $262,885 | $5,330,823 | |
| **South Platte** | $1,175,857 | $1,605,250 | $429,393 | $2,550,566 | |
| **Yampa/White** | $1,181,374 | $1,605,250 | $423,876 | $431,813 | |
| **TOTAL** | $10,807,293 | $14,447,250 | $3,639,957 | $23,316,383 | $6,202,600 |

| | |
|---|---|
| **TOTAL APPROVED GRANTS** | $34,123,676 |

Note: Only includes grants approved by CWCB

**Water Supply Reserve Account – Grant and Loan Program**
**Water Activity Summary Sheet**
**Agenda Item 17.a**

**Applicant:** El Paso County

**Water Activity Name:** Groundwater Quality Study, Phase Two

**Water Activity Purpose:** Study

**County:** El Paso

**Drainage Basin:** Arkansas

**Water Source:** Upper Black Squirrel Creek Basin

**Amount Requested:** $35,000

**Source of Funds:** Arkansas basin account

**Matching Funds:** In-kind contributions

| **Staff Recommendation** |
| --- |
| Staff recommends approval of up to $35,000 from the Arkansas basin account to help fund the Groundwater Quality Study, Phase 2 Project contingent upon resolution of the items listed in the issues/additional needs section below. |

**Water Activity Summary:**
The objective of this project is to gain a better understanding of the groundwater resources in the upper Black Squirrel Creek Basin, about 25 miles east of Colorado Springs, which supplies most of the water for irrigation and domestic use in the basin. This project seeks to aid in planning, decision making and public education related to groundwater and drinking water supplies and to provide for long term water resources protection and management. The results of this project will help to determine the age and flow directions of the groundwater and identify areas sensitive to groundwater contamination. Substantial growth of subdivisions in the upper Black Squirrel Creek Basin has led to considerable concern related to potential contamination of groundwater and to the municipal wells used to supply the smaller communities in the basin. Potential contamination from agricultural activities, unregulated industrial waste disposal, fueling facilities and storm water runoff is also a concern. Furthermore, there is interest in artificially recharging the groundwater in the aquifer in the future to help augment the existing groundwater resources and maintaining the quality of the groundwater resource is important to preserve options.

As indicated in the application, this project is the second phase of a project potentially consisting of three phases. Phase one of the project was the result of work sessions on the topic of groundwater contamination by the El Paso County Board of Commissions in 2009 and consisted of a summary of available data and literature search of studies completed in the basin. One of the recommendations was to implement a Phase 2 to investigate and refine the understanding of the groundwater flow system and to acquire the water quality data needed to support and scientifically defend land use planning decisions. If implemented, Phase 3 would utilize the information gained during the first two phases and develop recommendations on topics such as:

- Land-use planning regulations,
- Voluntary water quality protection programs,

- Public education and outreach,
- County administration and refinement of onsite wastewater system regulations,
- Future aquifer recharge sites,
- Areas of special concern for oil and gas drilling,
- Zones for wellhead protection,
- Long-term sampling of wells to monitor the potential effects from land-use development and oil and gas exploration, and
- Future susceptibility assessments in the Denver Basin bedrock aquifers.

**Discussion:**
Staff agrees that if the Upper Black Squirrel Aquifer will continue to be relied upon for domestic and outdoor uses as well as potential recharging of the aquifer, an understanding of the land use and potential contaminants is important. The Upper Black Squirrel Creek aquifer has been determined to be a suitable storage location (through a 2006 Colorado Geologic Survey study partially funded through the WSRA program) and this program will help to make sure that if the aquifer were to be used for aquifer recharge and storage, then the water quality would be protected to the extent possible through land use regulations, education and other means. Considering that this area has moderate land use densities (approximately one resident per 2.5 acres) and is located in close proximity to Colorado Springs, examination and protection of the groundwater quality is prudent to the long-term sustainability of the area.

**Issues/Additional Needs:** None

**Reporting and Deliverables:** All products, data and information developed as a result of this grant must be provided to the 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.

In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

**Reporting:** The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

**Final Deliverable:** At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

**Engineering:** All engineering work (as defined in the Engineers Practice Act (§12-25-102(10) C.R.S.)) performed under this grant shall be performed by or under the responsible charge of professional engineer licensed by the State of Colorado to practice Engineering.

**Water Supply Reserve Account – Grant and Loan Program**
**Water Activity Summary Sheet**
**Agenda Item 17.b**

**Applicant:** Eagle River Watershed Council

**Water Activity Name:** Colorado River Inventory and Assessment

**Water Activity Purpose:** Nonconsumptive

**County:** Eagle

**Drainage Basin:** Colorado

**Water Source:** Colorado River

**Amount Requested:** $30,000 (Colorado Basin Account)

**Matching Funds:** $56,501 (Eagle County General Fund, Eagle County Open Space Fund, CSU)

| **Staff Recommendation** |
| --- |
| Staff recommends approval of up to $30,000 from the Colorado Basin Account to help complete the Colorado River Inventory Assessment. |

**Water Activity Summary:**
The Eagle River Watershed Council (ERWC) seeks to create an Inventory and Assessment of the Colorado River in Eagle County. While updating Eagle County's 1996 Eagle River Watershed Plan, it became apparent that there was very little reference to the Colorado River in Eagle County, constituting almost 60 miles. In addition, there is virtually no monitoring on this stretch of the Colorado River in Eagle County, with the only USGS gage located in Dotsero close to the county line. As a result, there is minimal baseline data on this major reach of the river that is heavily affected by trans-basin diversions, climate change, extensive recreational use, invasive species, and many other issues.

Therefore, the proposed assessment seeks to understand and protect the Colorado River by creating a well-defined and prioritized list of restoration and conservation projects. The Assessment will be utilized to educate local communities and the state, as well as to ultimately help obtain funding for prioritized projects. A more complete understanding of the ecological setting of the Colorado River corridor will aid future land use decision making, conservation funding, and other agriculture, recreation or wildlife-based projects that benefit Eagle County and its tourism-based economy.

The proposed assessment will:

- Inventory channel, riparian , and upland characteristics within Eagle County that influence the ecological integrity, recreational amenities, and aesthetic values of the Colorado River and its major tributaries in the corridor.
- Analyze existing monitoring data and information to assess the status of river corridor.
- Conduct synoptic field surveys of riparian condition, chemical, physical, and biological water quality, and geomorphic attributes to supplement existing information.
- Identify and describe candidate rehabilitation projects (structural and non-structural) and link to current issues and likely outcomes.
- Assess current and potential recreation impact upon the river.
- Identify, describe and prioritize candidate sites best suited for recreation access.
- Prioritize rehabilitation strategies in a decision matrix based on likelihood of success, potential benefits, rough estimates of costs, and stakeholder input.

- Produce a report describing the results of the river corridor inventory and prioritized recommendations for rehabilitation projects following the updated approach and template of the 2005 Eagle River Inventory and Assessment.

*Threshold and Evaluation Criteria*
The application meets all four Threshold Criteria.

*Funding Overview*
Matching funds are provided from the Eagle County General Fund, the Eagle County Open Space Fund, and CSU totaling $56,501 and resulting in a total match over 188%.

**Discussion:**
The proposed project addresses multiple issues and needs arising from the lack of a comprehensive ecological inventory for the Eagle County reach of the Colorado River. This has significant implications for both existing and future non-consumptive and consumptive needs. The Eagle County Conservation District has identified this area as a stream bank management zone, while the Colorado River Outfitters Association has identified significant future capacity for increased commercial boating on the reach from State Bridge to Glenwood Springs. In addition, Eagle County has acquired several open space parcels with the intent to increase recreational river access. The project also seeks to identify and evaluate threatened or endangered fish and/or riparian wildlife with the objective of the conservation and/or restoration of their habitats.

Pairing results of this baseline inventory with both upstream and downstream information and management plans for the river (including Grand County and the Middle Colorado River Partnership) has the potential to better manage and address future nonconsumptive and consumptive interests on public and private land, and to preserve and enhance the Colorado River through the work of multiple jurisdictions, agencies and organizations. The proposed project seeks to attract additional funding to implement identified projects that will inform, conserve or restore the health of the Colorado River.

**Issues/Additional Needs:**
No issues or additional needs remain.

**Staff Recommendation:**
Staff recommends approval of up to $30,000 from the Colorado Basin Account to help complete the Colorado River Inventory Assessment.

All products, data and information developed as a result of this grant must be provided to the 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. In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

**Reporting:** The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

**Final Deliverable:** At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

**Engineering:** All engineering work (as defined in the Engineers Practice Act (§12-25-102(10) C.R.S.)) performed under this grant shall be performed by or under the responsible charge of professional engineer licensed by the State of Colorado to practice Engineering.

**Water Supply Reserve Account – Grant and Loan Program**
**Water Activity Summary Sheet**
**Agenda Item 17.c**

**Applicant:** Jackson County Water Conservancy District

**Water Activity Name:** Structures for Water Control: Headgates and Diversion - Additional Funds Request

**Water Activity Purpose:** Structural Water Project

**County:** Jackson

**Drainage Basin:** North Platte

**Water Source:** Michigan River

**Amount Requested:** $55,055 (North Platte Basin Account)

**Matching Funds:** $13,500 (NRCS in-kind), $12,883 (landowner contributions), $128,828 (previous WSRA funds from North Platte Basin Account)

| **Staff Recommendation** |
| --- |
| Staff recommends approval of up to $55,055 from the North Platte Basin Account to help complete Jackson County Water Conservancy District's Structures for Water Control: Headgates and Diversion – Additional Funds Request. |

**Water Activity Summary:**
This application is a request for additional WSRA funds for an ongoing project to assist with the increased cost of materials and labor in the construction and installation of the water control structures. The requested amount reflects the increase in costs since the original date of the price estimates (April 2011) to the planned installation date (October 2012).

The Jackson County Water Conservancy District, is replacing four old, deteriorating headgate structures and installing one new permanent diversion structure. Each of the proposed structures is critical in the delivery of irrigation water to storage and/or to irrigated ground.

The old headgate structures were in extremely poor condition. They were deteriorating and incapable of safely, effectively and efficiently controlling and regulating water flow into the Bostwick, Mutual, Staples 1, and Squibob ditches. In addition, there was no permanent diversion structure in the Michigan River. A temporary combination of rocks, sod, pipe, and wire panels were annually installed in order to divert water into the Richmond Ditch. The new headgate structures will allow the water users to safely, effectively, and efficiently control and regulate the amount of water entering each of the associated ditches. The diversion structure will serve as a permanent check structure, thus eliminating annual damage to the streambanks and reducing sediment discharge. Installing these improved structures will not only help to maintain the current agricultural economic base, but will also help meet the identified consumptive need of increasing irrigated acres within the county. Improved water efficiency is a benefit to all consumptive and associated non-consumptive uses of irrigation water.

The structures address both the agricultural and environmental water needs in a cost effective, collaborative way. The structures on the five different ditches provide irrigation water to nineteen different individuals and entities that irrigate over 12,000 acres of hay and pasture land in Jackson County. In addition to irrigating highly valuable hay land, the irrigation water creates irrigation-induced wetlands and riparian areas that provide habitat for many species of big game, waterfowl and upland birds, including the Greater Sage Grouse. The ditches, wetlands, and riparian areas provide a variety of recreational opportunities as well.

The Jackson County Water Conservancy District has received technical and engineering assistance through the Natural Resources Conservation Service (NRCS) for the survey and design of the proposed structures. NRCS will continue to provide technical support throughout the construction, revegetation, and maintenance phases of the project.

*Threshold and Evaluation Criteria*
The application meets all four Threshold Criteria.

*Funding Overview*
The Water Right Owners are contributing 10% of the total costs of project construction and installation (Task 3), totaling $12,883. The Water Right Owners shall also be responsible for any and all cost over-rides. In addition, the NRCS is contributing in-kind services valued at $13,500. Ninety percent of the requested WSRA funds will be used in the actual construction and installation of the new, shovel ready structure projects. The remaining ten percent of the requested funds will be used for administrative costs of the project.

**Discussion:**
As identified in the SWSI findings, small agricultural water users often lack the financial ability to adequately address infrastructure needs without financial aid. The Jackson County Water Conservancy District does not possess the financial resources to make the required improvements to efficiently utilize its existing water rights. In addition, the SWSI Management Objectives, of the SWSI Phase II Report: Addressing the Water Supply Gap Technical Roundtable, include to "sustainably meet agricultural demands." That management objective is directly met through this activity. The project effectively meets the objectives of HB 1177 and the consumptive needs of the North Platte Basin by rehabilitating existing infrastructure to preserve agricultural water use.

**Issues/Additional Needs:**
No issues or additional needs remain.

**Staff Recommendation:**
Staff recommends approval of up to $55,055 from the North Platte Basin Account to help complete Jackson County Water Conservancy District's Structures for Water Control: Headgates and Diversion – Additional Funds Request.

All products, data and information developed as a result of this grant must be provided to the 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. In accordance with the revised WSRA Criteria and Guidelines, staff would like to highlight additional reporting and final deliverable requirements. The specific requirements are provided below.

**Reporting:** The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the scope of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

**Final Deliverable:** At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

**Engineering:** All engineering work (as defined in the Engineers Practice Act (§12-25-102(10) C.R.S.)) performed under this grant shall be performed by or under the responsible charge of professional engineer licensed by the State of Colorado to practice Engineering.

Arkansas Basin Roundtable
Official Records Location
c/o Board of Water Works of Pueblo
Attention: Leslie Martinez
P.O. Box 400
Pueblo CO 81002-0400

March 15, 2012

**Greg Johnson**
Colorado Water Conservation Board
Water Supply Planning Section
1580 Logan Street, Suite 600
Denver, Colorado 80203

**Re: Water Supply Reserve Account Grant Application for the Groundwater Quality Study—Phase 2, Upper Black Squirrel Creek Alluvial Aquifer, El Paso County, CO**

Dear Greg:

Under separate cover you will receive a WSRA grant application for the Water Supply Reserve Account Grant Application for the Groundwater Quality Study—Phase 2, Upper Black Squirrel Creek Alluvial Aquifer, El Paso County, CO. At the March 14, 2012, Arkansas Basin Roundtable meeting, the Roundtable agreed by consensus to approve this application for $35,000 in Basin Funds. An important element of the discussion was the fact that the Upper Black Squirrel Creek Alluvial Aquifer is a municipal source of water supply in an area identified with the "Gap" in our basin needs report. Any degradation in water quality could exacerbate the municipal supply gap in the Arkansas Basin.

My hope is that this grant request can be heard at the May, 2012 CWCB meeting. Please do not hesitate to contact me if you have any questions.

Sincerely,

Gary Barber
Chair

c: Executive Committee, Ark Roundtable
Todd Doherty, CWCB staff
Sean Chambers, General Manager, Cherokee Metropolitan District
Betty Konarski

DEPARTMENT OF NATURAL RESOURCES

# COLORADO WATER CONSERVATION BOARD

## WATER SUPPLY RESERVE ACCOUNT APPLICATION FORM

Groundwater Quality Study, Phase 2 – Upper Black Squirrel Creek Alluvial Aquifer, El Paso County, Colorado

**Name of Water Activity/Project**

El Paso County by/through the Board of County Commissioners of El Paso County, Colorado, on behalf of its Groundwater Quality Study Committee.

**Name of Applicant**

Arkansas Basin Roundtable

**Amount from Statewide Account:**

**Amount from Basin Account(s):** $35,000

**Total WSRA Funds Requested:** $35,000

**Approving Basin Roundtable(s)**
*(If multiple basins specify amounts in parentheses )*

## Application Content



**Required Exhibits**

A. Statement of Work, Budget, and Schedule
B. Project Map
C. As Needed (i.e. letters of support, photos, maps, etc.)

**Appendices – Reference Material**

1. Program Information
2. Insurance Requirements
3. WSRA Standard Contract Information (Required for Projects Over $100,000)
4. W-9 Form (Required for All Projects Prior to Contracting)

## Instructions

To receive funding from the Water Supply Reserve Account (WSRA), a proposed water activity must be approved by the local Basin Roundtable **AND** the Colorado Water Conservation Board (CWCB). The process for Basin Roundtable consideration and approval is outlined in materials in Appendix 1.

Once approved by the local Basin Roundtable, the applicant should submit this application **with a detailed statement of work including budget and schedule as Exhibit A** to CWCB staff by the application deadline.

WSRA applications are due with the roundtable letter of support 60 calendar days prior to the bi-monthly Board meeting at which it will be considered. Board meetings are held in January, March, May, July, September, and November. Meeting details, including scheduled dates, agendas, etc. are posted on the CWCB website at: http://cwcb.state.co.us Applications to the WSRA Basin Account are considered at every board meeting, while applications to the WSRA Statewide Account are only considered at the March and September board meetings.

When completing this application, the applicant should refer to the WSRA Criteria and Guidelines available at: http://cwcb.state.co.us/LoansGrants/water-supply-reserve-account-grants/Documents/WSRACriteriaGuidelines.pdf

The application, statement of work, budget, and schedule **must be submitted in electronic format** (Microsoft Word or text-enabled PDF are preferred) and can be emailed or mailed on a disk to:

Greg Johnson – WSRA Application
Colorado Water Conservation Board
1580 Logan Street, Suite 200
Denver, CO 80203
gregory.johnson@state.co.us

If you have questions or need additional assistance, please contact Greg Johnson at: 303-866-3441 x3249 or gregory.johnson@state.co.us.

**Part I. - Description of the Applicant** (Project Sponsor or Owner);

1. Applicant Name(s): El Paso County by its Board of County Commissioners and their appointed Groundwater Quality Study Committee

Mailing address: Groundwater Quality Study Committee
c/o Elaine Kleckner, Community Services Department
2002 Creek Crossing
Colorado Springs, CO 80905

Taxpayer ID#: 84-6000764

**Primary Contact**: Elaine Kleckner Position/Title: Project Administrator

Email: ElaineKleckner@elpasoco.com

Phone Numbers: Cell: 719-499-1375 Office: 719-520-6999

**Alternate Contact**: Sean Chambers Position/Title: Committee Chair

Email: SChambers@Cherokeemetro.org

Phone Numbers: Cell: 719-499-5430 Office: 719-597-5080

2. Eligible entities for WSRA funds include the following. What type of entity is the Applicant?

[X] Public (Government) – municipalities, enterprises, counties, and State of Colorado agencies. Federal agencies are encouraged to work with local entities and the local entity should be the grant recipient. Federal agencies are eligible, but only if they can make a compelling case for why a local partner cannot be the grant recipient.

[ ] Public (Districts) – authorities, Title 32/special districts, (conservancy, conservation, and irrigation districts), and water activity enterprises.

[ ] Private Incorporated – mutual ditch companies, homeowners associations, corporations.

[ ] Private individuals, partnerships, and sole proprietors are eligible for funding from the Basin Accounts but not for funding from the Statewide Account.

[ ] Non-governmental organizations – broadly defined as any organization that is not part of the government.

3. Provide a brief description of your organization

The Groundwater Quality Study Committee is a group appointed by the Board of County Commissioners of El Paso County. The BoCC established a Groundwater Quality Study Committee in 2009 to develop data necessary in the protection and enhancement of the alluvial storage space and groundwater dependent areas of the County. It is comprised of public, private and nonprofit sector members. Water providers and the Upper Black Squirrel Creek Groundwater Management District (UBSCGWMD) are active participants, and State and Federal agency representatives serve as technical advisors and project collaborators. The mission of this coalition is to evaluate existing water quality data on nitrates and other contaminants, fill data gaps and explore land use and water resources planning implications. (See attached Resolution.) The County, under a shared funding arrangement with Committee partners, contracted with the Colorado Geological Survey (CGS) to conduct Phase 1 of the Groundwater Quality Study. The report is available at:
http://adm.elpasoco.com/Development%20Services/Pages/AdvisoryBoardsandCommittees.aspx

4. If the Contracting Entity is different then the Applicant (Project Sponsor or Owner) please describe the Contracting Entity here.

N/A

5. Successful applicants will have to execute a contract with the CWCB prior to beginning work on the portion of the project funded by the WSRA grant. In order to expedite the contracting process the CWCB has established a standard contract with provisions the applicant must adhere to. A link to this standard contract is included in Appendix 3. Please review this contract and check the appropriate box.

[X] The Applicant will be able to contract with the CWCB using the Standard Contract

[ ] The Applicant has reviewed the standard contract and has some questions/issues/concerns. Please be aware that any deviation from the standard contract could result in a significant delay between grant approval and the funds being available.

6. The Tax Payer Bill of Rights (TABOR) may limit the amount of grant money an entity can receive. Please describe any relevant TABOR issues that may affect the applicant.

N/A

**Part II. - Description of the Water Activity/Project**

1. What is the primary purpose of this grant application? (Please check only one)

| | |
|---|---|
| | Nonconsumptive (Environmental or Recreational) |
| | Agricultural |
| | Municipal/Industrial |
| | Needs Assessment |
| | Education |
| X | Other Explain: Water quality study project for the enhancement of groundwater storage assets and water quality. All uses. |

2. If you feel this project addresses multiple purposes please explain.

   The study project has been scoped to generate baseline water quality data that will be useful to local health department, agricultural users, individual well and septic system homeowners, municipalities, and Upper Black Squirrel Creek Groundwater Management District and the Groundwater Commission.

3. Is this project primarily a study or implementation of a water activity/project? (Please check only one)

| | | | |
|---|---|---|---|
| X | Study | | Implementation |

4. To catalog measurable results achieved with WSRA funds can you provide any of the following numbers?

| | |
|---|---|
| | New Storage Created (acre-feet) |
| | New Annual Water Supplies Developed, Consumptive or Nonconsumptive (acre-feet) |
| X | Existing Storage Preserved or Enhanced (acre-feet) |
| | Length of Stream Restored or Protected (linear feet) |
| | Length of Pipe/Canal Built or Improved (linear feet) |
| | Efficiency Savings (acre-feet/year OR dollars/year – **circle one**) |
| | Area of Restored or Preserved Habitat (acres) |
| X | Other -- Explain: Suitability and vulnerability of 500,000 AF Upper Black Squirrel |

4. To help us map WSRA projects please include a map (Exhibit B) and provide the general coordinates below:

Latitude: 38.84 Longitude: -104.38

The Groundwater Quality Study Committee's area of interest is El Paso County, with an initial focus on the Upper Black Squirrel Creek drainage basin including the area immediately south of the UBSCGWMD boundary where oil and gas exploration is occurring. The basin encompasses approximately 350 square miles in east-central El Paso County, Colorado. The basin lies east of the City of Colorado Springs. (See attached map.)

5. Please provide an overview/summary of the proposed water activity (no more than one page). Include a description of the overall water activity and specifically what the WSRA funding will be used for. A full **Statement of Work** with a detailed budget and schedule is required as **Exhibit A** of this application.

The purpose of the project is to build on Phase 1 and conduct Phase 2 of the Groundwater Quality Study:

1) to refine the distribution, geometry, and hydrology of the alluvial and shallow bedrock aquifers in the northwestern portion of the Upper Black Squirrel Creek basin, and 2) to establish a groundwater monitoring network to detect and quantify impacts to water quality resulting from existing and proposed land uses that may degrade water supplies.

El Paso County is expected to use the data and recommendations to inform land use planning and determine if changes to policies and regulations are warranted. The study will also help other entities, such as special districts and UBSCGWMD make informed decisions regarding infrastructure planning. Installation of monitoring wells and establishing a groundwater monitoring program will support both water quality protection and water supply planning in the future. Establishing a water-quality baseline for the alluvial aquifer will be needed before conjunctive use/aquifer storage and recovery can occur to meet the water supply gap that has been identified by El Paso County.

Phase 1 of the Groundwater Quality Study was completed in March, 2011. The Phase 1 report, prepared by CGS, consists of a literature review, existing water quality data compilation/analysis, identification of potential contaminant sources based on land use, and a recommendation to implement the next phase. The U.S. Geological Survey (USGS) was a technical advisor for Phase 1 and will be the lead consultant for Phase 2. The USGS has worked with the Groundwater Quality Study Committee to develop the scope of work for Phase 2.

With this grant application, the Groundwater Quality Study Committee seeks to augment Phase 2 funding. Funds are requested for identification of and/or installation of monitoring wells to include in a long-term monitoring program, hydrogeologic evaluation, additional analysis aquifer characteristics and vulnerability potential, to provide for early detection of potential contamination issues that could impact human health and the environment.

**Part III. – Threshold and Evaluation Criteria**

1. Describe how the water activity meets these **Threshold Criteria.** (Detailed in Part 3 of the Water Supply Reserve Account Criteria and Guidelines.)

   a) The water activity is consistent with Section 37-75-102 Colorado Revised Statutes.[1]

   The project is consistent with the statute and shall not have any impact upon water rights or the existing system of adjudication

   b) The water activity underwent an evaluation and approval process and was approved by the Basin Roundtable (BRT) and the application includes a description of the results of the BRT s evaluation and approval of the activity. At a minimum, the description must include the level of agreement reached by the roundtable, including any minority opinion(s) if there was not general agreement for the activity. The description must also include reasons why general agreement was not reached (if it was not), including who opposed the activity and why they opposed it. Note- If this information is included in the letter from the roundtable chair simply reference that letter.

[To be completed following 3/6 BRT Needs Assessment]

[1] 37-75-102. Water rights - protections. (1) It is the policy of the General Assembly that the current system of allocating water within Colorado shall not be superseded, abrogated, or otherwise impaired by this article. Nothing in this article shall be interpreted to repeal or in any manner amend the existing water rights adjudication system. The General Assembly affirms the state constitution's recognition of water rights as a private usufructuary property right, and this article is not intended to restrict the ability of the holder of a water right to use or to dispose of that water right in any manner permitted under Colorado law. (2) The General Assembly affirms the protections for contractual and property rights recognized by the contract and takings protections under the state constitution and related statutes. This article shall not be implemented in any way that would diminish, impair, or cause injury to any property or contractual right created by intergovernmental agreements, contracts, stipulations among parties to water cases, terms and conditions in water decrees, or any other similar document related to the allocation or use of water. This article shall not be construed to supersede, abrogate, or cause injury to vested water rights or decreed conditional water rights. The General Assembly affirms that this article does not impair, limit, or otherwise affect the rights of persons or entities to enter into agreements, contracts, or memoranda of understanding with other persons or entities relating to the appropriation, movement, or use of water under other provisions of law.

c) The water activity meets the provisions of Section 37-75-104(2), Colorado Revised Statutes.[2] The Basin Roundtable Chairs shall include in their approval letters for particular WSRA grant applications a description of how the water activity will assist in meeting the water supply needs identified in the basin roundtable's consumptive and/or non-consumptive needs assessments.

Groundwater resources are essential to the support and vitality of life, economy, public heath, and environmental health in El Paso County and beyond. The preservation of El Paso County resources and in particular water and alluvial storage resources of the Upper Black Squirrel Creek Basin are essential to the long term efficient use of water and sustainability of water supplies in El Paso County. That sustainability and potential alluvial storage within the aquifer should reduce water waste, evaporation; return flows down Fountain Creek and efforts to by El Paso County entities seeking water from the Arkansas River's main stem.

d) Matching Requirement: For requests from the **Statewide Fund**, the applicants is required to demonstrate a **20 percent** (or greater) match of the request from the Statewide Account. Statewide requests must also include a minimum match of **5 percent** of the total grant amount from Basin Funds. Sources of matching funds include but are not limited to Basin Funds, in-kind services, funding from other sources, and/or direct cash match. Past expenditures directly related to the project may be considered as matching funds if the expenditures occurred within 9 months of the date the application was submitted to the CWCB. Please describe the source(s) of matching funds. (NOTE: These matching funds should also be reflected in your Detailed Budget in **Exhibit A** of this application)

There are in-kind contributions from El Paso County, its Development Services Division, its Health Department, its Citizen volunteers, the Upper Black Squirrel Creek Groundwater Management District and its consultants, the Cherokee Metropolitan District and its consultants, the Meridian Metro Service District and its consultants, the Paint Brush Hills Metro District, Members of the Housing and Building Association, Colorado State Board of Land Commissioners and the City of Colorado Springs. Financial Matches exceeding the above stated requirements are detailed in the attached Exhibit A

[2] 37-75-104 (2)(c). Using data and information from the Statewide Water Supply Initiative and other appropriate sources and in cooperation with the on-going Statewide Water Supply Initiative, develop a basin-wide consumptive and nonconsumptive water supply needs assessment, conduct an analysis of available unappropriated waters within the basin, and propose projects or methods, both structural and nonstructural, for meeting those needs and utilizing those unappropriated waters where appropriate. Basin Roundtables shall actively seek the input and advice of affected local governments, water providers, and other interested stakeholders and persons in establishing its needs assessment, and shall propose projects or methods for meeting those needs. Recommendations from this assessment shall be forwarded to the Interbasin Compact Committee and other basin roundtables for analysis and consideration after the General Assembly has approved the Interbasin Compact Charter.

2. For Applications that include a request for funds from the **Statewide Account**, describe how the water activity/project meets all applicable **Evaluation Criteria.** (Detailed in Part 3 of the Water Supply Reserve Account Criteria and Guidelines and repeated below.) Projects will be assessed on how well they meet the Evaluation Criteria. **Please attach additional pages as necessary.**

**Evaluation Criteria** – the following criteria will be utilized to further evaluate the merits of the water activity proposed for funding from the Statewide Account. In evaluation of proposed water activities, preference will be given to projects that meet one or more criteria from each of the three "tiers" or categories. Each "tier" is grouped in level of importance. For instance, projects that meet Tier 1 criteria will outweigh projects that only meet Tier 3 criteria. WSRA grant requests for projects that may qualify for loans through the CWCB loan program will receive preference in the Statewide Evaluation Criteria if the grant request is part of a CWCB loan/WSRA grant package. For these CWCB loan/WSRA grant packages, the applicant must have a CWCB loan/WSRA grant ratio of 1:1 or higher. Preference will be given to those with a higher loan/grant ratio.

Tier 1: Promoting Collaboration/Cooperation and Meeting Water Management Goals and Identified Water Needs

a. The water activity addresses multiple needs or issues, including consumptive and/or non-consumptive needs, or the needs and issues of multiple interests or multiple basins. This can be demonstrated by obtaining letters of support from other basin roundtables (in addition to an approval letter from the sponsoring basin).
b. The number and types of entities represented in the application and the degree to which the activity will promote cooperation and collaboration among traditional consumptive water interests and/or non-consumptive interests, and if applicable, the degree to which the water activity is effective in addressing intrabasin or interbasin needs or issues.
c. The water activity helps implement projects and processes identified as helping meet Colorado's future water needs, and/or addresses the gap areas between available water supply and future need as identified in SWSI or a roundtable's basin-wide water needs assessment.

Tier 2: Facilitating Water Activity Implementation

d. Funding from this Account will reduce the uncertainty that the water activity will be implemented. For this criterion the applicant should discuss how receiving funding from the Account will make a significant difference in the implementation of the water activity (i.e., how will receiving funding enable the water activity to move forward or the inability obtaining funding elsewhere).
e. The amount of matching funds provided by the applicant via direct contributions, demonstrable in-kind contributions, and/or other sources demonstrates a significant & appropriate commitment to the project.

Tier 3: The Water Activity Addresses Other Issues of Statewide Value and Maximizes Benefits

f. The water activity helps sustain agriculture & open space, or meets environmental or recreational needs.
g. The water activity assists in the administration of compact-entitled waters or addresses problems related to compact entitled waters and compact compliance and the degree to which the activity promotes maximum utilization of state waters.
h. The water activity assists in the recovery of threatened and endangered wildlife species or Colorado State species of concern.
i. The water activity provides a high level of benefit to Colorado in relationship to the amount of funds requested.
j. The water activity is complimentary to or assists in the implementation of other CWCB programs.

Continued: Explanation of how the water activity/project meets all applicable **Evaluation Criteria.**
**Please attach additional pages as necessary.**

The project meets theWSRA Tier 1 criteria in the following ways:

1. The project, its deliverable data set and the GIS groundwater vulnerabilty mapping will be essential tools that lead to more efficent use of the existing resources and long term protection of the water resources and the alluvial storage resource that was quantified in the 2006 C.G.S. study by Ralf Topper.
2. Numerous local entities and agncies will be able to utilize the Phase 2 baseline water quality study results and related age dating vulnerability assment mapping for policy decisions and revisions that seek to address the goal of prolonging the supply and quality of El Paso County groundwater resources. The local Designated Basin Management District (Upper Black Squirrel Creek), the areas agricultural interests, the municipal interests, the County's Health Department and Development Services and the Pikes Peak Regional Water Authority are all vested in the long-term protection of the alluvial resources, but all recognize an insuffient data set on water quality, aquifer characteristics and vulnerability to contamination, specifically in the Upper Black Squirrel Basin's northwest quadrant where rapid urbanization has taken place overtop of relatively shallow bedrock in the area of Falcon, Colorad.
3. This unincorporated area of El Paso County is the primary source of drinking water for many rural residents, as well as numerous municipal entities and their customers. More than 35,000 people depend on this particualr source of supply and it is also in this same genearl area that oil and gas development copmpanies have been active writing leases with local landowners. The project will generate baseline water quality data that includes those constituents of concern that may result from oil and gas development activities and in this respect the study has been scoped to promote cooperation and collaboration among tradionally competative consumptive water interests and a bloosoming energy sector.
4. The collaborative protection and promotion of water quality and enhanced water storage will lead to greter cooperation, science based decisions, and utilization of El Paso County resources to meet El Paso County water demands, thereby reducing demand on the mainstem of the Arkansas and Platte Rivers and seeking to further develop efficient storage that can reduce the Fountain Creek return flow and stormwater issues while making the most of any mainstem and / or trans-mountain water resources utilized in El Paso County. Letters of Support are attached.

The project meets the WSRA Tier 2 criteria in the following ways:

1. The Phase 2 Groundwater Study has a very sizable scope of work with very important and valuable deliverables, which come at a significant cost. The total project study cost is approximately $343,350.00 and despite very significant local buy in from a wide variety of entities across a wide spectrum of industries and institutions, there is an unmet funding need and monies from the WSRA would provide measurable and signifiance leverage of the local dollars, allowing this very valuble project to get under way.
2. Local stakeholders are going to fund approximately 30% of the project, USGS matching funds can be leveraged up to about 42% or $144,000.00 if the full stream of adequate matching funds can be developed on top of the local stakeholder contributions. In addition to the seven local entities making financial contributions, numerous others are making and have committed to ongoing in-kind technical and / or manpower contributions that are essential to the budget and success of the Phase 2 project.
3. El Paso County Health Department has committed to provice an intern to assist USGS as needed and their Development Services Department is prepared to make available a multitude of land use, zoning, small area master planning, transportation and growth prediction mapping resources essential to the interface of vulnerability assessment with land use. Further, some of the municipal districts and the Groundwater Management District have committed their consultants, staff, laboratory facilities, well logs and other relevant records relevant to the scope of work.

The project meets the WSRA Tier 3 Criteria in the following ways:

1 The project is essential to the protection a multiple use source of supply that supports everything from agriculture to industry. If these many competing uses are to continue on and co-exist, enhanced alluvial storage must be achieved and sourcewater protection must be implemented on a more scientific basis. This scope of work and the USGS as operators of the study are positioned to develop a data set and vulnerability mapping set that will allow policy makers appropriate resources in their decisions on how the basin is protected from potential contamination and further quantify how the basin could be used as enhanced storage and water banking.

2 The project shall lead to further cooperation among competing users, better science for decision support, and the work product will be a recognized standard for the type of science necessary to on the water quality end of setting up an enhanced storage water banking system. The investment in alluvial storage and the complex relationship of administration with competing uses is contentious enough, good sciece must be the basis for policy that seeks to enhance the resource while avoiding a possible tragedy of the commons. The Upper Black Squirrel Creek Basin has been previoulsy determined to be a suitable storage location through the 2006 CGS work that was partially funded by Roundtable dollars and this work is the next step towards quantifying how such an enhanced storage and banking operation would protect water quality in the face of urbanized growth, oil and gas development and historic agricultural interests.

3 The oil and gas specific work and its incorporation into a vulnerability assessment the is based in geoscience is a model that can be utilized across this state and beyond. The rapid growth of oil and gas development has just started and this study will hold tremendeous value to other communities accrooss the state looking for a well designed model of how to protect all parties and water resources.

## Part IV. – Required Supporting Material

1. **Water Rights, Availability, and Sustainability** – This information is needed to assess the viability of the water project or activity. Please provide a description of the water supply source to be utilized, or the water body to be affected by, the water activity. This should include a description of applicable water rights, and water rights issues, and the name/location of water bodies affected by the water activity.

Source of Supply is the alluvial aquifer of the Upper Black Squirrel Creek Designated Groundwater Basin. This alluvial resource has been adjudicated as non-tributary to the Arkansas River's main stem, but lies completely within Division 2 and the greater Arkansas Basin. The Upper Black Squirrel Creek groundwater resources have been determined to be over appropriated and between 1965 and 1985 there were consistent and significant declines in the alluvial aquifer's water levels. The alluvial aquifer is the water source of supply for numerous cattle and livestock operations, feed farmers, and sod farmers who utilize the same source of supply as tens of thousands of rural residential homeowners living on parcels of various size from 2.5 acre to 35 acre and larger parcels. Due to the proximity of the Basin to urban Colorado Springs, the alluvial water resources of the Upper Black Squirrel have been the source of municipal supplies since the 1960 and at present four major metropolitan districts and many smaller community water systems rely upon this source as their primary water supply.

2. Please provide a brief narrative of any related studies or permitting issues.

The project would consist of new data collection and analysis, including groundwater sampling and testing, as recommended in the Phase 1 report by CGS, groundwater age dating and vulnerability assessment GIS mapping to support and expand upon the conclusions reached by CGS in their 2006 report on storage capacity. Candidate wells will be selected after analysis of well permit database; and monitoring wells would be installed, as needed. The study would also focus on the geometry, hydrology and quantification of the alluvial aquifer in the northern and western portions of the basin and the shallow bedrock alluvial aquifers.

3. Statement of Work, Detailed Budget, and Project Schedule

The statement of work will form the basis for the contract between the Applicant and the State of Colorado. In short, the Applicant is agreeing to undertake the work for the compensation outlined in the statement of work and budget, and in return, the State of Colorado is receiving the deliverables/products specified. **Please note that costs incurred prior to execution of a contract or purchase order are not subject to reimbursement**. All WSRA funds are disbursed on a reimbursement basis after review invoices and appropriate backup material.

**Please provide a detailed statement of work using the template in Exhibit A**. Additional sections or modifications may be included as necessary. Please define all acronyms and include page numbers.

**Please see the official scope of work developed by the Committee in concert with input from Colorado Geological Survey and the USGS. That Scope includes a detailed budget and general project schedule by quarter for the Federal Fiscal Calendar. The Scope is broken into tasks with tasks having specific timelines for funding, work and completion.**

## REPORTING AND FINAL DELIVERABLE

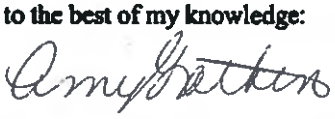
Reporting: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the statement of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Deliverable: At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

## PAYMENT

Payment will be made based on actual expenditures and invoicing by the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 5 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed. All products, data and information developed as a result of this grant must be provided to the 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 help promote the development of a common technical platform.

The above statements are true to the best of my knowledge:

**Signature of Applicant:** 

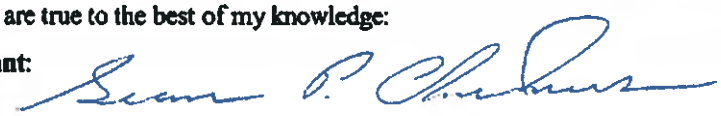
**Print Applicant's Name:** Commissioner Amy Lathen
Chair – El Paso County Board of County Commissioners and Lesion to Groundwater Quality Study

**Project Title:** Groundwater Quality Study, Phase 2 – Upper Black Squirrel Creek Aquifer, El Paso County

**Return an electronic version (hardcopy may also be submitted) of this application to:**

Greg Johnson – WSRA Application
Colorado Water Conservation Board
1580 Logan Street, Suite 200
Denver, CO 80203
gregory.johnson@state.co.us

The above statements are true to the best of my knowledge:

**Signature of Applicant:** 

**Print Applicant's Name:** Sean Chambers, Committee Chair, as appointed to the Groundwater Quality Study Committee by Board of County Commissioners, El Paso County, Colorado

**Project Title:** Groundwater Quality Study, Phase 2 – Upper Black Squirrel Creek Aquifer, El Paso County

**Return an electronic version (hardcopy may also be submitted) of this application to:**

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Denver, CO 80203
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WATER RESOURCES DISCIPLINE
CENTRAL REGION
COLORADO WATER SCIENCE CENTER
January 30, 2012

A. TITLE

Groundwater Susceptibility Assessment for the Upper Black Squirrel Creek Basin Area, El Paso County, Colorado, Phase 2

B. SUMMARY

The alluvial aquifer of the upper Black Squirrel Creek Basin, about 25 miles east of Colorado Springs, supplies most of the water for irrigation and domestic use in the basin and, since 1964, supplies water for export to the Colorado Springs area. The alluvial aquifer overlies the Denver Basin bedrock aquifers: the Dawson, Denver, Arapahoe, and Laramie-Fox Hills aquifers. Substantial growth of subdivisions in the upper Black Squirrel Creek Basin, and the development of many of these subdivisions on 2.5 acre lots that utilize domestic septic systems, has led to considerable concern related to potential contamination of groundwater and to the municipal wells used to supply the smaller communities in the basin. Potential groundwater contamination from agricultural activities, unregulated industrial waste disposal, fueling facilities, and stormwater runoff is also a concern. Furthermore, there is interest in artificially recharging the groundwater in the alluvial aquifer in the future to help augment the existing groundwater resources; maintaining the quality of the groundwater resource is important to preserve options.

The objective of this project is to gain a better understanding of groundwater resources in the upper Black Squirrel Creek Basin to aid in planning, decision making, and public education related to groundwater and drinking water supplies and to provide for long-term water-resource protection and management. The results of this project will help to determine the age and flow directions of the groundwater and identify areas sensitive to groundwater contamination.

C. PROBLEM

The alluvial aquifer of the upper Black Squirrel Creek Basin, about 25 miles east of Colorado Springs, supplies most of the water for irrigation and domestic use in the basin and, since 1964, supplies water for export to the Colorado Springs area. The alluvial aquifer overlies the Denver Basin bedrock aquifers: the Dawson, Denver, Arapahoe, and Laramie-Fox Hills aquifers. Land use impacts, including substantial growth of subdivisions in the upper Black Squirrel Creek Basin, and the development of many of these subdivisions on 2.5-acre lots that include domestic septic systems, has led to considerable concern related to potential contamination of groundwater and to the municipal wells used to supply the smaller communities in the basin. Because of those concerns, the El Paso County Board of County Commissioners held work sessions in early 2009 to discuss potential changes to the El Paso County Land Development Code. The work sessions led to adoption by the Board of Resolution No. 09-202, which provided staff direction to develop and implement a work plan to conduct a groundwater contamination study. The work plan that was subsequently developed by County staff, in consultation with a volunteer committee of individuals with the appropriate technical skills, recommended a three-phased study. The board then

established the Groundwater Quality Study Committee, and work commenced during mid-2009. The first phase of the study, completed in April 2011, was a summary of the available data and literature search of studies completed in the basin (Topper and Horn, 2011). The recommendation from Phase 1 of the study:

*"Due to the spatial and temporal limitations of the compiled water-quality data, this study was only partially successful in meeting the objectives established by the study committee. Unfortunately, there is no groundwater quality data available in the northwest portion of the basin, where urban land uses and ISDS's are concentrated and continued development is expected. Decision makers in El Paso County attempting to assess the vulnerability of the groundwater resource currently lack a complete understanding of the hydrogeology of the aquifer system and the associated anthropogenic effects controlling the source, transport, and fate of potential contaminants. To address this gap, we recommend implementing a Phase 2 investigation focusing on refining our understanding of the groundwater flow system and acquiring the water quality data needed to support and scientifically defend land use planning decisions." (Topper and Horn, 2011).*

Following the completion of the first phase of the study, the U.S. Geological Survey (USGS) was asked by the Groundwater Quality Study Committee to develop a proposed study for the second phase of the study that would address the recommendations put forth from the first phase. Phase 2 (the subject of this proposal) will locate and identify existing wells for groundwater-quality sampling, install monitoring wells in areas where it is important to collect data but where no wells exist, and sample groundwater from those existing and installed wells. Once sampling is complete, Phase 2 will make statistical correlations between groundwater quality and factors such as depth to groundwater, land use, and soils, and then develop maps that predict the predisposition of areas to groundwater contamination. Phase 2 also will identify a subset of the sampled wells that are suitable for long-term water-quality sampling.

Phase 3, which may be performed after Phase 2 is completed (as directed by the Board of County Commissioners), will utilize the information gained during Phase 1 and Phase 2 to develop recommendations on topics such as:

- land-use planning and subsequent development of regulations, if warranted,
- voluntary water-quality protection programs,
- public education and outreach,
- county administration and refinement of onsite wastewater system regulations,
- future aquifer recharge projects,
- areas of special concern for oil and gas drilling,
- zones for wellhead protection,
- long-term sampling of wells to monitor the potential effects from land-use development and oil and gas exploration, and
- future susceptibility assessments in the Denver Basin bedrock aquifers.

## D. OBJECTIVES AND SCOPE

The objective of Phase 2 is to gain a better understanding of groundwater resources in the upper Black Squirrel Creek Basin to aid in planning, decision making and public education

related to groundwater and drinking water supplies to provide for long-term water-resource protection and management. The results of Phase 2 will help to determine the age and flow directions of the groundwater, and identify areas sensitive to groundwater contamination. Maps that show the predisposition of the alluvial aquifer in the upper Black Squirrel Creek Basin to groundwater contamination will be developed. These maps can be used by resource managers to focus groundwater-sampling programs in areas of greatest potential for contamination and focus pollution-prevention programs in areas of greatest concern. For example, the maps generated from this project can support the next phase of the project (Phase 3), which may determine wellhead protection zones.

The scope of this project includes identifying existing wells completed in the alluvial aquifer that are suitable for geochemical sampling. The scope also includes installation of up to 10 new monitoring wells where no wells exist. Water from at least 50 new and existing wells will be analyzed for fluoride, major ions, nitrate, and groundwater age dating constituents such as chlorofluorocarbons, dissolved gasses, and tritium. The southern boundary of the study area may be extended south of the boundary used during the Phase 1 report to incorporate wells owned by the State of Colorado. Maps predicting the probability of groundwater contamination by constituents such as nitrate will be developed based upon statistical correlations between groundwater quality data and factors such as depth to groundwater, land use, and soils. Wells suitable for long-term groundwater-quality sampling during Phase 3 will be identified.

There is concern that proposed oil and gas exploration activities could adversely affect groundwater quality in the study area. One of the primary objectives of Phase 2 is to develop maps predicting the pre-disposition of groundwater contamination from nonpoint sources of contamination such as nitrate. Assessing the potential impacts from site-specific oil and gas exploration activities are beyond the scope of this proposal. However, it is within the scope of Phase 2 to establish baseline groundwater quality in the alluvial aquifer. Water from the same 50 wells sampled by Phase 2 will be analyzed for additional compounds that are indicators of potential contamination resulting from oil and gas activities. These compounds include benzene, toluene, ethylbenzene, and xylenes (BTEX, see Table 1), and methane (determined with a dissolved gas analysis).

Making land use decisions such as determining maximum densities of domestic septic systems is beyond the scope of Phase 2, because Phase 2 is a regional study designed to evaluate nonpoint–source pollution across the entire study area. However, the results of Phase 2 can provide the foundational information for making land use and public health decisions during Phase 3.

## E. APPROACH

A staged approach will be used during Phase 2 that allows specific components of the project to be completed in a sequential manner. This staged approach was successfully accomplished in a similar study in Eagle County. If only partial funds can be obtained during any particular year, the staged approach allows tasks to be completed in a sequential manner, and the timelines of the next tasks to be pushed forward until additional funds can be obtained. The timelines for each task can be modified depending on the availability of

funds. The cost estimates were performed using 2012 cost estimates. If it takes longer than anticipated to get all tasks funded, the costs estimates may have to be recalculated to account for inflation.

The first task will include carefully examining the Colorado Division of Water Resources Well Permit database to identify 'candidate' wells that are completed in the alluvial aquifer in the study area. All data associated with the candidate wells will be compiled, including well logs, well depths, screened intervals, well permits, and well owner information. All relevant GIS data for the study area such as land use, geology, and soils data will also be compiled. The datasets associated with this information will be downloaded into a central data repository (such as a relational database) so that efficient retrieval and linkages to other attributes can be done to meet the project objectives. Cooperator support is required, and will include in-kind services to assist with retrieving well permit data, identifying wells completed in the alluvial aquifer, locating wells logs and matching those with candidate wells, obtaining well owner information, and obtaining GIS data from local agencies (Table 2).

The first task of Phase 2 will also select a subset of the candidate wells using a stratified random sampling procedure. Existing GIS data such as land use, geology, and soils will be used to identify the full range of land use and hydrogeologic factors present in the study area. The stratified random sampling procedure will select wells that sample a wide range of those factors in a statistically random manner. Because of the complex nature of this analysis, the USGS would lead this task of Phase 2.

The second task will perform a site visit of the randomly selected wells to determine their suitability for geochemical sampling. The suitability for sampling will be based upon factors such as the ability to measure the water level, permission to sample from the well owner, and the presence of a sample port located prior to any filtration, treatment, or pressure tanks. If the site is deemed suitable for sampling, it will be inventoried, the water level will be measured, and all relevant information will be entered into the USGS NWIS database. The USGS will lead this effort, but cooperator assistance is required to contact well owners and arrange site visits.

The third task will install new monitoring wells, if needed. Phase 1 recommended that eight new monitoring wells be installed by this project, but at the time of this writing, it is not known if geologic conditions will allow installation of the wells. Information learned during Task 1 and 2 of Phase 2 will be used to determine if these wells should be installed. Cherokee Metro District has offered their assistance to complete this Task. Cherokee will contact landowners and get permanent site access, set up contracting with the well drilling contractor, and assist drillers during well drilling and development. The drilling contractors will be responsible for locating utilities, obtaining well permits from the State of Colorado, purchasing supplies, installing the wells, and developing the wells to assure they provide sufficient groundwater for sampling. The USGS will recommend the locations for installed wells. If less than 8 monitoring wells are installed, then any leftover funds could be used to pay for additional geochemical sampling.

The fourth task of this project will consist of groundwater-quality sampling at 50 wells for BTEX, chlorofluorocarbons (CFC's), dissolved gasses, fluoride, major ions, nitrate, and tritium. Data from multiple geochemical tools will compliment each other, helping to verify the results. CFC's and tritium are good age-dating tools for waters less than 50 years old (Plummer and Friedman, 1999). Dissolved gasses ($N_2$, Ar, $CH_4$, $CO_2$, and $O_2$) will be analyzed at all the sampled sites to provide groundwater recharge temperature data required for CFC age dating. The potential impacts from oil and gas exploration are a concern, so BTEX (Table 1) and methane (from the dissolved gas analysis) will be analyzed in water from all sampled sites. High concentrations of fluoride have been reported in the study area, so Phase 2 will help identify problem areas. Major ions can be used as geochemical tracers, and possibly to identify impacts from oil and gas activities. Nitrate is of high concern for local residents, and will be used to calibrate the probability maps. Field parameters, which will be collected at each site, will include water level, dissolved oxygen, pH, specific conductance, and temperature. Dissolved oxygen provides important information on the reduction and oxidation (redox) characteristics of the groundwater, which helps determine how persistent nitrate will be in the groundwater. Cooperator assistance is required to arrange well access, help with sampling logistics, and possibly provide field staff.

The fifth task of this project will compile and analyze all data collected by this project along with Phase 1 data. Groundwater geochemistry, groundwater age, and elevations of the groundwater will be evaluated and a conceptual model of the groundwater age and flow directions will be developed. Maps showing the water table elevations and depth to groundwater will be developed. Groundwater probability model(s) and map(s) will be developed based upon correlations between the groundwater-quality data and GIS data such as depth to groundwater, land use, and soils. Statistical models will be developed that predict the predisposition of the alluvial aquifer to groundwater contamination, similar to that done by Rupert (1998, 2001, and 2003) and Rupert and Plummer (2009). Two types of probability models/maps will be developed. The first will develop a probability model/map using only hydrogeologic variables such as depth to groundwater and soils (hydrogeologic susceptibility). The first model/map can be used in land use applications or public health reviews so that appropriate conditions or technology can be required in highly sensitive areas. The second probability model/map will combine land use variables with the hydrogeologic susceptibility variables (groundwater vulnerability). This second model/map will help identify if there is a correlation between certain land uses and contamination, and it can be used by planners to create zoning and land use plans. The final report will describe the: 1) groundwater quality, 2) groundwater age, 3) groundwater flow directions, and 4) correlations between groundwater quality and GIS data. The final report will define the predisposition of the alluvial aquifer to groundwater contamination by incorporating methods used by Rupert (1998, 2001, 2003), and Rupert and Plummer (2009). Task 5 will also produce a groundwater-monitoring plan for future sampling of the alluvial aquifer. This groundwater-monitoring plan will include a list of wells sampled during Phase 2 that are suitable for long-term sampling, a list of analytes, sampling frequency, and estimated costs. This monitoring plan may be useful for long-term baseline monitoring of the effects of land use development, including the potential effects from oil and gas exploration and production in the area.

F. QUALITY-ASSURANCE PLAN

All new data-collection sites will be inventoried and the data will be entered into the National Water Information System (NWIS) database in accordance with standards specified by the Colorado Water Science Center (http://co.water.usgs.gov/usgs/datamgmt/site_file_POLICY.doc). Groundwater levels will be measured in accordance with the groundwater technical procedures of the U.S. Geological Survey (Cunningham and Schalk, 2011). All groundwater-quality data will be collected in full accordance with the USGS Colorado Water Science Center QA/QC plan (http://co.water.usgs.gov/usgs/QA/CO_Water_Quality_QA_Plan.pdf) using standard USGS sampling methods (http://water.usgs.gov/owq/FieldManual/) and methods specified by the USGS chlorofluorocarbon laboratory (http://water.usgs.gov/lab/cfc/sampling/).

Chlorofluorocarbon samples will be analyzed by the USGS Chlorofluorocarbon lab in Reston, VA. All other water-quality samples will be analyzed by the U.S. Geological Survey National Water Quality laboratory and all data will be entered into the USGS National Water Information System database.

The QA/QC program for water-quality sample collection will consist of 5 replicate CFC samples collected at each site, replicate samples for major ions, nutrients, and tritium collected at 10 percent of the sites, and equipment blank samples for major ions and nutrients collected at 10 percent of the sites. Duplicate samples for dissolved gasses will be collected at each site. BTEX trip blank and replicate samples will be collected at 10 percent of the sites.

Metadata will be created for all ARC/INFO coverages, shapefiles, and geodatasets that are developed by this project. This metadata and the associated ARC/INFO data files will undergo colleague review and USGS approval prior to being released to the public. The metadata will meet Federal Geographic Data Committee standards as specified at http://water.usgs.gov/usgs/gis/metadata.html.

G. PRODUCTS

A comprehensive USGS Scientific Investigations Report (SIR) will be written at the completion of Phase 2 that summarizes the results of all tasks of the project. The GIS data layer(s) of the groundwater probability map(s) developed by this study will be published as Open File reports and posted on the World Wide Web for use by the public. All other original GIS data layers developed by this study (such as depth to ground water and water table) will be published as USGS Open File reports and posted on the World Wide Web. Text from the SIR will be used to develop the metadata for the original GIS data layers so there is consistency between the final report and the associated data layers.

All GIS data layers that were used as building blocks for the probability maps, but not necessarily developed by this project (such as land cover and soils) will be transmitted to El

Paso County so that all the building blocks that went into the probability maps can be archived, and updated probability maps can be produced in the future.

All well inventory and groundwater-quality data collected during Phase 2 will be entered in the U.S. Geological Survey National Water Information System (NWIS) database and served on the World Wide Web (except for well owner and public supply well information, which will be kept confidential). A copy of the well database will also be transmitted to El Paso County, with a confidentiality clause because it may contain well owner information.

A groundwater monitoring plan for future sampling of the alluvial aquifer will be developed. This groundwater-monitoring plan will include a list of wells sampled during Phase 2 that are suitable for long-term sampling, a potential list of analytes, sampling frequency, and estimated costs. This monitoring plan may be useful for long-term baseline monitoring of the effects of land use development, including the potential effects from oil and gas exploration and production in the area.

## H. PROJECT MANAGEMENT

A final project schedule will be arranged at the time the USGS Joint Funding Agreement is signed by both parties. Once the project begins, written status updates will be provided by the USGS on a quarterly basis. If requested, the USGS will attend the monthly committee meetings to give verbal status reports. The USGS arranges billing on a fixed-cost basis, with bills submitted quarterly.

## I. REFERENCES


Cunningham, W.L., and Schalk, C.W., comps., 2011, Groundwater technical procedures of the U.S. Geological Survey: U.S. Geological Survey Techniques and Methods 1–A1, 151 p. (available only online at http://pubs.usgs.gov/tm/1a1/)

Plummer, L.N., and Friedman, L.C., 1999, Tracing and dating young ground water: U.S. Geological Survey Fact Sheet FS–134–99.

Rupert, M.G., 1998, Probability of atrazine/desethyl-atrazine and elevated concentrations of nitrate (NO2+NO3-N) in ground water in the Idaho part of the upper Snake River Basin: U.S. Geological Survey Water-Resources Investigations Report 98-4203, 1 plate, 32 p., http://idaho.usgs.gov/PDF/wri984203/index.html.

Rupert, M.G., 2001, Calibration of the DRASTIC ground-water vulnerability mapping method: Ground Water, July-August 2001, vol. 39, no. 4, p. 625-630.

Rupert, M.G., 2003, Probability of detecting atrazine/desethyl-atrazine and elevated nitrate concentrations in ground water in Colorado: U.S. Geological Survey Water-Resources Investigations Report 02-4269, 35 p., 18 figs, http://water.usgs.gov/pubs/wri/wri02-4269/.

Rupert, M.G., and Plummer, L.N., 2009, Groundwater quality, age, and probability of contamination, Eagle River watershed valley-fill aquifer, north-central Colorado, 2006–2007: U.S. Geological Survey Scientific Investigations Report 2009–5082, 59 p., http://pubs.usgs.gov/sir/2009/5082/.

Topper, Ralf, and Horn, Andy, 2011, El Paso County Groundwater Quality Study – Phase: Prepared for El Paso County Groundwater Quality Study Committee, available from Colorado Geological Survey web site http://geosurvey.state.co.us/water/Water%20Quality/Pages/WaterQuality.aspx.

Table 1. List of constituents (and their reporting limits) analyzed by USGS Lab Schedule 4025, Gasoline Oxygenates & BTEX.

**Schedule 4025**

**Description:** Gasoline Oxygenates & BTEX, Acidified, Wat, Unf - 3 vials
[RL, Laboratory Reporting Limit]

| Analyte | | Parameter Code | CAS Number | RL | Unit | RL Type | C A |
|---|---|---|---|---|---|---|---|
| tert-Amyl alcohol | | 77073 | 75-85-4 | 0.6 | ug/L | lrl | |
| Methyl acetate | | 77032 | 79-20-9 | 0.46 | ug/L | lrl | |
| Acetone | | 81552 | 67-64-1 | 1.6 | ug/L | lrl | |
| Benzene | | 34030 | 71-43-2 | 0.040 | ug/L | lrl | |
| 1,4-Bromofluorobenzene | | 99834 | 460-00-4 | | pct | | |
| Ethylbenzene | | 34371 | 100-41-4 | 0.032 | ug/L | lrl | |
| 1,2-Dichloroethane-d4 | | 99832 | 17060-07-0 | | pct | | |
| Ethyl tert-butyl ether | | 50004 | 637-92-3 | 0.046 | ug/L | lrl | |
| Isobutyl alcohol-d6 | | 62835 | 72182-69-5 | | pct | | |
| Diisopropyl ether | | 81577 | 108-20-3 | 0.044 | ug/L | lrl | |
| m- and p-Xylene | | 85795 | 179601-23-1 | 0.050 | ug/L | lrl | |
| tert-Butyl methyl ether | | 78032 | 1634-04-4 | 0.060 | ug/L | lrl | |
| o-Xylene | | 77135 | 95-47-6 | 0.028 | ug/L | lrl | |
| tert-Butyl alcohol | | 77035 | 75-65-0 | 0.8 | ug/L | lrl | |
| tert-Pentyl methyl ether | | 50005 | 994-05-8 | 0.044 | ug/L | lrl | |
| Toluene | | 34010 | 108-88-3 | 0.020 | ug/L | lrl | |
| Toluene-d8 | | 99833 | 2037-26-5 | | pct | | |

*CAS Registry Number® is a Registered Trademark of the American Chemical Society. CAS recommends the verification of the CASRNs through CAS Client Services.*

Table 2. Timeline of primary Tasks of the Phase 2 study, estimated costs, and list of duties for the cooperating agencies and the USGS.

| TASK | TIME TO COMPLETE TASK | COOPERATOR COST (estimates based on 2012 estimates. Costs may go up in future years due to inflation) | USGS COST (estimates based on 2012 estimates. Costs may go up in future years due to inflation) | TOTAL | RESPONSIBILITIES |
|---|---|---|---|---|---|
| Task 1: Compile GIS data not collected during Phase 1 such as soils and domestic septic systems. Identify wells completed in alluvial aquifer. Perform stratified randon selection of wells. | 2 months | $6,900 | $5,700 | $12,600 | Cooperator assistance: retrieve well permit data, identify wells completed in the alluvial aquifer, locate well logs and match those with candidate wells, obtain well owner information, and obtain GIS data from local agencies such as density of domestic septic systems.<br><br>USGS Tasks: Compile GIS data not collected during Phase 1 such as soils and density of domestic septic systems. Organize GIS and well data into central repository. Identify wells completed in the alluvial aquifer. Overlay alluvial wells with GIS data such as depth to ground water, land use, and soils. Perform stratified random selection of candidate wells. |
| Task 2: Site visit and inventory of wells | 2 months | $19,300 | $15,800 | $35,100 | Cooperator assistance: Contact well owners, arrange permission to visit well site.<br><br>USGS Tasks: Inventory wells, measure water levels, enter all well information into the USGS NWIS database. |
| Task 3: Install new monitoring wells | 2 months | $21,650 (not part of USGS funding agreement) | $0 | $21,650 | Cooperator assistance: Cherokee Metro District estimated total costs of $21,650 to install 10 monitoring wells. Cherokee will arrange drilling independently of this proposal. Cherokee Metro District will contact land owners and get permanent site access, set up contracting with the well drilling contractor, and assist drillers during well drilling and development. Drilling contractors will be responsible for locating utilities, obtaining well permits from the State of Colorado, purchasing supplies, installing wells, and developing wells to assure they provide sufficient groundwater for sampling.<br><br>USGS Tasks: Recommend locations for installed wells. |
| Task 4a: Sample 50 wells for chlorofluorocarbons (CFC's), fluoride, major ions, nitrate, and tritium. | 2 months to sample, up to 6 additional months to get data back from labs. | $60,250 | $49,300 | $109,550 | Cooperator assistance: Arrange well access, assist with sampling logistics, possibly provide field staff.<br><br>USGS Tasks: Sample wells, ship samples to specialized USGS laboratories for analysis, enter field and laboratory data into USGS NWIS database. |
| Task 4b: Additional sampling of 50 wells for BTEX and dissolved gasses (indicators of oil and gas activities). | See Task 4a | $11,600 | $9,500 | $21,100 | Cooperator assistance: Arrange well access, assist with sampling logistics, possibly provide field staff.<br><br>USGS Tasks: Sample wells, ship samples to specialized USGS laboratories for analysis, enter field and laboratory data into USGS NWIS database. |
| Task 5: Analyze data and publish final reports | 18 months | $78,850 | $64,500 | $143,350 | USGS Tasks: Compile groundwater quality data, make statistical correlations with GIS data such as depth to groundwater, land use, and soils. Develop maps showing the probability of groundwater contamination. Publish the study results in a USGS SIR report, and publish the GIS maps as USGS Open-File reports. Develop a groundwater monitoring plan for long-term groundwater-quality monitoring in the basin. |
| TOTAL COST | | $198,550 | $144,800 | $343,350 | TOTAL COST |

Note: If total funding is not available at the start of Phase 2, individual tasks can be completed in a sequential manner as funding allows.

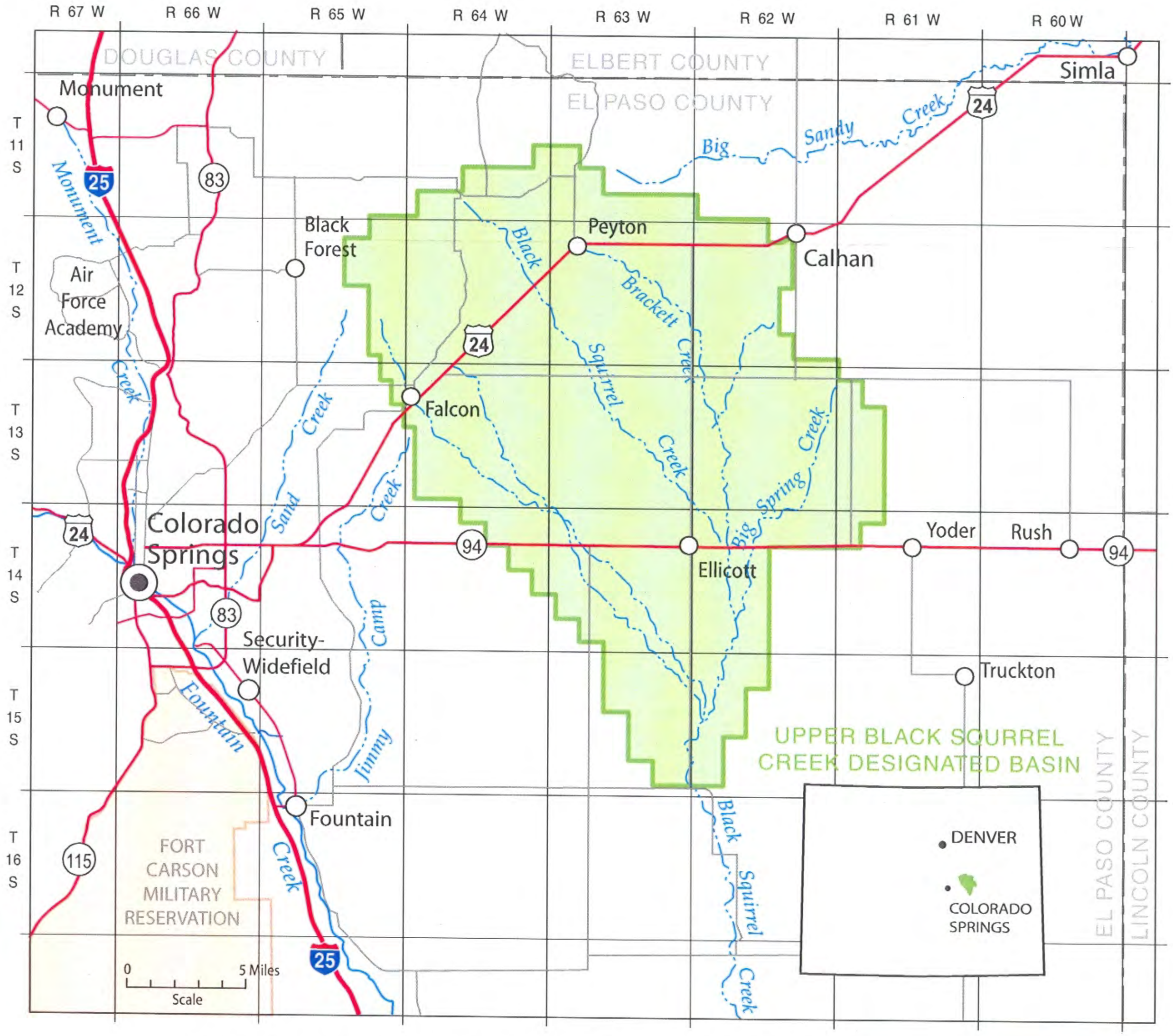


**Figure 1.1 Location of the Upper Black Squirrel Creek Basin and Study Area**

El Paso County Groundwater Quality Study

February 2011

Table 2. Timeline of primary Tasks of the Phase 2 study, estimated costs, and list of duties for the cooperating agencies and the USGS.

| TASK | TIME TO COMPLETE TASK | COOPERATOR COST (estimates based on 2012 estimates. Costs may go up in future years due to inflation) | USGS COST (estimates based on 2012 estimates. Costs may go up in future years due to inflation) | TOTAL | RESPONSIBILITIES |
|---|---|---|---|---|---|
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| Task 4b: Additional sampling of 50 wells for BTEX and dissolved gasses (indicators of oil and gas activities). | See Task 4a | $11,600 | $9,500 | $21,100 | Cooperator assistance: Arrange well access, assist with sampling logistics, possibly provide field staff.<br><br>USGS Tasks: Sample wells, ship samples to specialized USGS laboratories for analysis, enter field and laboratory data into USGS NWIS database. |
| Task 5: Analyze data and publish final reports | 18 months | $78,850 | $64,500 | $143,350 | USGS Tasks: Compile groundwater quality data, make statistical correlations with GIS data such as depth to groundwater, land use, and soils. Develop maps showing the probability of groundwater contamination. Publish the study results in a USGS SIR report, and publish the GIS maps as USGS Open-File reports. Develop a groundwater monitoring plan for long-term groundwater-quality monitoring in the basin. |
| TOTAL COST | | $198,550 | $144,800 | $343,350 | TOTAL COST |

Note: If total funding is not available at the start of Phase 2, individual tasks can be completed in a sequential manner as funding allows.

| Workplan Element | Calendar Yr-2012 | | | | Calendar Yr -2013 | | | | Calendar Yr -2014 | | | | Calendar Yr -2015 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan | Apr | Jul | Oct | Jan | Apr | Jul | Oct | Jan | Apr | Jul | Oct | Jan | Apr | Jul | Oct |
| **Task 1** | | | | | | | | | | | | | | | | |
| Compile GIS data | | X | X | | | | | | | | | | | | | |
| Identify wells | | X | X | | | | | | | | | | | | | |
| **Task 2** | | | | | | | | | | | | | | | | |
| Site visits and Inventory wells | | | X | | | | | | | | | | | | | |
| Enter well info into database | | | X | X | | | | | | | | | | | | |
| **Task 3 (Cooperator lead)** | | | | | | | | | | | | | | | | |
| Install new monitoring wells | | | | X | X | X | | | | | | | | | | |
| **Task 4** | | | | | | | | | | | | | | | | |
| Sample 50 wells | | | | | | X | X | | | | | | | | | |
| Enter field data into USGS database | | | | | | X | X | | | | | | | | | |
| Receive data from labs, review QA/QC data, enter into USGS database | | | | | | | X | X | X | | | | | | | |
| **Task 5** | | | | | | | | | | | | | | | | |
| Analyze data | | | | | | | | | X | X | | | | | | |
| Draft report to El Paso County | | | | | | | | | | | X | | | | | |
| Develop long-term groundwater monitoring plan | | | | | | | | | | | X | | | | | |
| USGS report review process, final report published | | | | | | | | | | | X | X | X | | | |
| Publish GIS maps as USGS Open-File Reports | | | | | | | | | | | | | | X | | |

**Groundwater Susceptibility Assessment for the Upper Black Squirrel Creek Basin Area**
**El Paso County, Colorado**
**Phase 2**

Funding Breakout by Calendar Year, version 4/2/2012

| Funding Source | Calendar Yr 2012 | Calendar Yr 2013 | Calendar Yr 2014 | Calendar Yr 2015 | Total |
|---|---|---|---|---|---|
| El Paso County and Groundwater Quality Study Committee Funding Partners | $26,200 | $71,850 | $41,250 | $37,600 | $176,900 |
| USGS | $21,500 | $58,800 | $34,350 | $30,150 | $144,800 |
| Total | $47,700 | $130,650 | $75,600 | $67,750 | $321,700 |

Constituents to be analyzed for at 50 wells:

1) BTEX (fuel products)
2) Chlorofluorocarbons (CFCs, GW age)
3) Dissolved gasses (includes methane, N2, Ar, $CO_2$, $O_2$)
4) Major ions (including fluoride)
5) Nitrate
6) Tritium (GW age)

DEPARTMENT OF NATURAL RESOURCES

# DIVISION OF WATER RESOURCES

John W. Hickenlooper
Governor

Mike King
Executive Director

Dick Wolfe, P.E.
Director/State Engineer

March 13, 2012

Members of the Arkansas River Basin Roundtable,

The Division of Water Resources (DWR) is pleased to support Phase 2 of the El Paso County / Upper Black Squirrel Creek Groundwater Study and Vulnerability Assessment. Primary water quality issues are not within the statutory authority of DWR, but lie with the Water Quality Control Division of the Colorado Dept. of Public Health and Environment. Nevertheless, DWR is cognizant of the role of water quality in the ability to put Colorado's water resources to the various beneficial uses recognized in Colorado law. Where water quality affects the beneficial use of water the Division is rightly concerned.

The Scope of Work created for the El Paso County Water Quality Study Committee in collaboration with the U.S. Geological Survey and many local and regional stakeholders addresses the basic data needs important in answering questions about water quality in the basin. Establishing baseline groundwater quality in the alluvial aquifer will provide a base of knowledge on which to make future land use decisions in the area and for the multiple uses of water envisioned in the future.

DWR is committed to support this study through in-kind services. DWR will generate a data set of all the alluvial wells within the Upper Black Squirrel Creek basin comprising the location, depth, designated use, and other appropriate data from our "Hydrobase" database. Compilation of this data was identified as one of the initial tasks in the Phase 2 Scope of Work and is necessary as you lay the foundation of the study. The approximate value of DWR's in-kind personal services is estimated as $1,500. I urge the members of the Arkansas River Basin Roundtable to support El Paso County in their Water Supply Reserve Account grant application.

Sincerely,

Matthew A. Sares
Hydrogeological Services Manager
Colorado Division of Water Resources

UPPER BLACK SQUIRREL CREEK
GROUND WATER MANAGEMENT DISTRICT
520 COLORADO AVENUE, SUITE C
CALHAN, COLORADO 80808
OFFICE (719) 347-0704 FAX (719) 347-9423



February 27, 2012

To whom it may concern:

The Upper Black Squirrel Creek Ground Water Management District (UBSCGWMD) and its Board of Directors would like to formally endorse the Phase II Water Quality Study as proposed by USGS for the El Paso County Water Quality Study Committee (WQSC). The WQSC was formed in large part because of UBSCGWMD's increasing concern about the water quality of the Upper Black Squirrel Creek Basins (UBSCB) alluvial aquifer, and the lack of data associated with it, and the district's ability to make informed decisions on both current and future water management rules and policies.

In 2006 the Board along with its consultants were responding to the El Paso County Planning and Land Use Department in regards to concerns that have been raised by the district for over 25 years in our records (See attachments).

In 2009 along with several Metropolitan Districts which rely on all or some alluvial water for their municipal customers took 12 or so samples in the main stem area of the UBSCB and had them tested for nitrate levels of which a large number were above the maximum allowable level. This information was taken to El Paso County BoCC and they then formed the WQSC. Phase I was the data compilation of existing data for UBSCB alluvial aquifer done by Colorado Geological Survey and completed with the help of several stake holder contributions. The UBSCGWMD contributed $5,000.00, plus an estimated amount of $5,000.00 to our geologist, who did additional pro bono work, estimated around $5,000.00. The UBSCGWMD Board of Directors is committed to Phase II for another $5,000.00 plus has already started with our in kind services. Our paid geologist has done extensive mapping of existing alluvial wells that will meet USGS's plan for monitoring wells which will help offset the need to drill monitoring wells.

In closing, the UBSCGWMD asks for your assistance to help fund what we feel is one of the most important studies this basin has ever undergone. We need to be able to form a baseline water quality of this precious resource, so that everyone can make sound fact based decisions going forward in how we manage and use the water and handle the discharges to the UBSC alluvial aquifer.

Sincerely,

Dave Doran
President of the UBSCGWMD

Colorado Springs Utilities

*It's how we're all connected*

March 5, 2012

Mr. Gary Barber
Chair, Arkansas Basin Roundtable
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203

**RE: Support for Water Supply Reserve Account Grant Application for Phase II Water Quality Study**

Dear Mr. Barber:

Colorado Springs Utilities (Springs Utilities) is writing to offer its support and endorsement of the Water Supply Reserve Account (WSRA) Grant Application for the Phase II Groundwater Quality Study (Phase II Study) being submitted on behalf of the El Paso County Water Quality Study Committee (WQSC). In 2009, the Board of County Commissioners (BoCC) of El Paso County established the WQSC to gather the data necessary to support the protection and enhancement of alluvial aquifers in east-central El Paso County, with an initial focus on the Upper Black Squirrel Creek Basin. The mission of this diverse group of public, private, and non-profit stakeholders is to evaluate existing water quality data, fill data gaps, and explore land use and water resource planning implications associated with the findings of the investigations. As a local and regional partner to many of the water providers who rely on the Upper Black Squirrel Creek Designated Groundwater Basin as a critical source of supply, Springs Utilities understands the importance of collecting baseline water quality and hydrologic data to inform land use and water resource planning decisions.

The purpose of the proposed project is to build on information gathered during Phase I of the Study and conduct Phase II of the Groundwater Quality Study to: 1) refine the distribution, geometry, and hydrology of the alluvial and shallow bedrock aquifers in the northwestern portion of the Upper Black Squirrel Creek Basin; and 2) to establish a groundwater monitoring network to detect and quantify impacts to water quality resulting from existing and proposed land uses that may degrade water supply. The study will be performed by the United States Geological Survey (USGS), with direction from the WQSC. The BoCC and other stakeholders within El Paso County will use the data and recommendations to inform land use planning and determine if changes to existing policies and regulations are warranted. The study will also help water users make informed decisions regarding water supply, infrastructure planning, source water protection, and public education and outreach through an increased understanding of local hydrogeologic conditions and water quality concerns.

We ask the Arkansas Basin Roundtable to please consider approving the WSRA Grant Application for the Phase II Study, based on the issues the study addresses, the value provided to regional stakeholders and the cooperation and collaboration that the study promotes. The funds requested will augment both the financial and in-kind contributions made by the BoCC and members of the WQSC. Springs Utilities continues to support the efforts of the WQSC, both through in-kind support of the Phase II Study, as well as through previous financial and in-kind contributions on related work, including the recently completed *Upper Black Squirrel Creek Basin Aquifer Recharge and Storage Evaluation*.

Please do not hesitate to contact me at (719) 668-4052 if you have any questions or would like to discuss Springs Utilities support for the Phase II Groundwater Quality Study in greater detail.

Sincerely,

Brett W. Gracely, P.E., D.WRE
Water Resources Manager

# PIKES PEAK REGIONAL WATER AUTHORITY

P.O. Box 1976, Colorado Springs, CO 80901, (719) 660-0948



January 9, 2012

***Via Electronic and/or Ordinary Mail***

Colorado Water Conservation Board
1313 Sherman St., Room 721
Denver, CO 80203

Re: Support of Phase 2 Groundwater Quality Vulnerability Assessment Study

The Pikes Peak Regional Water Authority (PPRWA) took action at its January 4, 2012 Board Meeting to formally support the Phase 2 Groundwater Quality Vulnerability Assessment Study in the Upper Black Squirrel Basin. The Phase 2 study has been scoped with the USGS and follows a Phase 1 study literature review. The recommendations for the Phase 2 scope have been made by Mr. Ralf Topper of Colorado Geological Survey, now with the D.W.R., and relate back to the 2006 Alluvial Storage Study that Basin Roundtable and CWCB supported. The current Phase 2 scope of work has been crafted over several months of meetings between the USGS and local agricultural, municipal, industrial, environmental and local government technocrats. There is significant buy-in from a variety of local stake holders, including the Groundwater Management District, El Paso County, City of Colorado Springs and several of the Municipal District's. This project has an obvious regional impact to the Basin and its surrounding area, but its results and how they can be used for land use, oil and gas impact evaluations, and ISDS code policy decisions is a template that can be applied across the Arkansas Basin and the State.

The PPRWA requests your consideration of financial support for this important on-going effort.

Please do not hesitate to contact me at (719) 322-2040 if you have any questions. Thank you for your consideration.

Sincerely,

Curtis A. Mitchell, P.E.
President

cc: PPRWA Directors

# *THE COLORADO BASIN ROUNDTABLE*
***C/O P.O. BOX 1120***
***GLENWOOD SPRINGS, COLORADO***
***81602***


April 2, 2012

Todd Doherty
COLORADO WATER CONSERVATION BOARD
1580 Logan Street, Suite 600
Denver, CO 80203

Dear Todd:

The Colorado Basin Roundtable voted at its March 26, 2012, meeting to approve a grant request and to seek waiver from the 60-day rule so that this request from the Eagle River Watershed Council may come before the Colorado Water Conservation Board at its May 2012 meeting. The reason for the waiver request (once again) relates to the need for field work to begin this summer.

The grant request in question is the Colorado River Inventory and Assessment. It seeks $30,000 spread over two years from the Basin Account of the Colorado Basin Roundtable. The vote was 12-1. The dissenter cited a priority for projects over analysis. Indeed, the Roundtable discussed this priority at the March 26 meeting and prior to that, at the Nonconsumptive Workshop we held March 15 to solicit nonconsumptive projects for our immediate desire to develop three to five in the short-term. The applicant reworked the grant and the final product will call out projects that can be accomplished. The immediate purpose of the Inventory and Assessment is to develop some baseline science and understand of the Colorado River in Eagle County, where apparently there is minimal such information.

Thank you for your time and consideration.

Sincerely yours,

Jim Pokrandt
Chair, Colorado Basin Roundtable

Attachment: CFWE grant applications

COLORADO
DEPARTMENT OF NATURAL RESOURCES

# COLORADO WATER CONSERVATION BOARD

## WATER SUPPLY RESERVE ACCOUNT APPLICATION FORM

Colorado River Inventory & Assessment

**Name of Water Activity/Project**

Eagle River Watershed Council

**Name of Applicant**

Colorado River Basin

**Approving Basin Roundtable(s)**
*(If multiple basins specify amounts in parentheses.)*

**Amount from Statewide Account:**

**Amount from Basin Account(s):** $30,000

**Total WSRA Funds Requested:** $30,000

## Application Content



**Required Exhibits**

A. Statement of Work, Budget, and Schedule
B. Project Map
C. As Needed (i.e. letters of support, photos, maps, etc.)

**Appendices – Reference Material**

1. Program Information
2. Insurance Requirements
3. WSRA Standard Contract Information (Required for Projects Over $100,000)
4. W-9 Form (Required for All Projects Prior to Contracting)

**Part I. - Description of the Applicant** (Project Sponsor or Owner);

| | | | | |
|---|---|---|---|---|
| 1. | Applicant Name(s): | Eagle River Watershed Council, Inc. | | |
| | Mailing address: | P.O. Box 7688<br>Avon, Co 81632 | | |
| | Taxpayer ID#: | 20-4448864 | | |
| | **Primary Contact**: | Melissa Macdonald | Position/Title: | Executive Director |
| | Email: | macdonald@erwc.org | | |
| | Phone Numbers: | Cell: 970-393-2727 | Office: | 970-827-5406 |
| | **Alternate Contact**: | Tambi Katieb | Position/Title: | Director of Planning |
| | Email: | Katieb@erwc.org | | |
| | Phone Numbers: | Cell: 970-401-3861 | Office: | 970-827-5406 |

2. Eligible entities for WSRA funds include the following. What type of entity is the Applicant?

| | |
|---|---|
| | Public (Government) – municipalities, enterprises, counties, and State of Colorado agencies. Federal agencies are encouraged to work with local entities and the local entity should be the grant recipient. Federal agencies are eligible, but only if they can make a compelling case for why a local partner cannot be the grant recipient. |
| | Public (Districts) – authorities, Title 32/special districts, (conservancy, conservation, and irrigation districts), and water activity enterprises. |
| | Private Incorporated – mutual ditch companies, homeowners associations, corporations. |
| | Private individuals, partnerships, and sole proprietors are eligible for funding from the Basin Accounts but not for funding from the Statewide Account. |
| X | Non-governmental organizations – broadly defined as any organization that is not part of the government. |

3. Provide a brief description of your organization:

The Eagle River Watershed Council is a 501 (c) (3) nonprofit organization that advocates for the health and conservation of the Upper Colorado and Eagle River basins through research, education and projects. We provide a forum where everyone can gain a greater understanding of the Colorado and Eagle River environments in Eagle County. We work to achieve our mission by actively monitoring the health of our rivers including the river below the Eagle Mine Superfund site; sponsoring public education programs such as Water Wise Wednesday which is additionally filmed and broadcast on local television; working with other organizations, such as the US Forest Service, on projects such as the Piney River, Red Dirt Creek and Homestake Creek restorations which are critical to the watersheds; and spearheading major projects such as Black Gore Creek/W. Vail Pass traction sand mitigation, the 1.6 mile, $4 million Eagle River Restoration at Edwards, CO, and the updated 1996 Eagle River Watershed Plan for Eagle County. We also formed a 15 member stakeholder group to collect, assess and store all the water quality data collected by varying entities in Eagle County and will start work with the USFS on the three year (initially) Camp Hale Eagle River restoration project this summer. Annually, we mobilize nearly 1,000 local volunteers to clean up 121 miles of local roadways (April) and 55 miles of waterways (September).

4. If the Contracting Entity is different than the Applicant (Project Sponsor or Owner) please describe the Contracting Entity here.

N/A

5. Successful applicants will have to execute a contract with the CWCB prior to beginning work on the portion of the project funded by the WSRA grant. In order to expedite the contracting process the CWCB has established a standard contract with provisions the applicant must adhere to. A link to this standard contract is included in Appendix 3. Please review this contract and check the appropriate box.

[X] The Applicant will be able to contract with the CWCB using the Standard Contract

[ ] The Applicant has reviewed the standard contract and has some questions/issues/concerns. Please be aware that any deviation from the standard contract could result in a significant delay between grant approval and the funds being available.

6. The Tax Payer Bill of Rights (TABOR) may limit the amount of grant money an entity can receive. Please describe any relevant TABOR issues that may affect the applicant.
N/A

**Part II. - Description of the Water Activity/Project**

1. What is the primary purpose of this grant application? (Please check only one)

| | |
|---|---|
| X | Nonconsumptive (Environmental or Recreational) |
| | Agricultural |
| | Municipal/Industrial |
| | Needs Assessment |
| | Education |
| | Other Explain: |

2. If you feel this project addresses multiple purposes please explain. N/A
3. Is this project primarily a study or implementation of a water activity/project? (Please check only one)

| | | | |
|---|---|---|---|
| X | Study | | Implementation |

4. To catalog measurable results achieved with WSRA funds can you provide any of the following numbers?

| | |
|---|---|
| | New Storage Created (acre-feet) |
| | New Annual Water Supplies Developed, Consumptive or Nonconsumptive (acre-feet) |
| | Existing Storage Preserved or Enhanced (acre-feet) |
| | Length of Stream Restored or Protected (linear feet) |
| | Length of Pipe/Canal Built or Improved (linear feet) |
| | Efficiency Savings (acre-feet/year OR dollars/year – **circle one**) |
| | Area of Restored or Preserved Habitat (acres) |
| X | Other -- Explain: Projects with measurable results will emanate from the Assessment. |

4. To help us map WSRA projects please include a map (Exhibit B) and provide the general coordinates below: There are two lat/longs as we start where the Colorado enters Eagle County and end where it exits.

Colorado River enters Eagle County (Above Rancho Del Rio, Below Radium):
Lat: 39 degrees 55' 29.23"N
Long: 106 degrees 34' 43.23" W

Colorado River exits Eagle County in Glenwood Canyon (right before Bair Ranch):
Lat: 39 degrees 37' 29.45" N
Long: 107 degrees 6' 49.79" W

| Latitude: | See above | Longitude: | See above |
|---|---|---|---|

5. Please provide an overview/summary of the proposed water activity (no more than one page). Include a description of the overall water activity and specifically what the WSRA funding will be used for. A full **Statement of Work** with a detailed budget and schedule is required as **Exhibit A** of this application.

The Eagle River Watershed Council (ERWC) is proposing to utilize Colorado River Basin Roundtable funding to create an Inventory and Assessment of the Colorado River in Eagle County. As we were updating Eagle County's 1996 Eagle River Watershed Plan, we noted that there was no mention of the nearly 60 miles of the Colorado River flowing through the County. In adding the river to the 16 year old Plan we found that there is virtually no monitoring on this stretch of the Colorado, with the only Eagle County USGS gage located in Dotsero, not far from where the river exits to Pitkin County. Essentially, we have virtually no scientific baseline data on a river that is threatened by front range diversions, climate change, extensive recreational use, invasive species, possible oil and gas or residential development and deleterious land use.

Our goal for the Assessment is to understand and protect the health of the Colorado River, its inhabitants and ecosystems, by creating a defined science-based, prioritized list of restoration and conservation projects. The Assessment will be utilized to educate our community and state, and to help us obtain public support and funding for these specified projects.

A complete understanding of the ecological setting of the Colorado River corridor will have lasting value for future land use decision making, conservation funding, enhancement and other agriculture, recreation or wildlife-based projects that benefit Eagle County and its tourism-based economy. The ERWC/CSU Assessment will:

- Inventory channel, riparian, and upland characteristics within Eagle County that influence the ecological integrity, recreational amenities, and aesthetic values of the Colorado River and its major tributaries in the corridor
- Analyze existing monitoring data and information to assess the status of river corridor
- Conduct synoptic field surveys of riparian condition, chemical, physical, and biological water quality, and geomorphic attributes to supplement existing information
- Identify and describe candidate rehabilitation projects (structural and non-structural) and link to current issues and likely outcomes based upon the following:
  - Field reconnaissance
  - Meetings with watershed stakeholders
  - Meetings with local, state and federal scientists

    - GIS inventory and analysis (riparian conditions, land cover, geomorphic processes, etc.)
    - Scientific assessment
- Assess current and potential recreation impact upon the river
- Identify, describe and prioritize candidate sites best suited for recreation access based upon the following:
    - Field reconnaissance
    - Meetings with watershed stakeholders
    - Scientific assessment including GIS inventory and assessment,
- Prioritize rehabilitation strategies in a decision matrix based on likelihood of success, potential benefits, rough estimates of costs, and stakeholder input.
- Produce a report describing the results of the river corridor inventory and prioritized recommendations for rehabilitation projects following the updated approach and template of the 2005 Eagle River Inventory and Assessment. The final report will include the following:
    - Description of candidate rehabilitation projects (structural and non-structural) identified during the inventory
    - Prioritized list of rehabilitation strategies based upon likelihood of success, potential benefits and rough estimates of cost
    - MCDA (multi-criteria decision analysis) spreadsheet tool used to rank candidate projects
    - Detailed description of the methods in the inventory and analysis of candidate rehabilitation projects
    - List of names, titles and affiliations of all persons who prepared the content of the report and participated in the monitoring activities
    - Analysis of all quantitative monitoring data using graph and table formats when appropriate
    - Prints or colored photocopies of all photographs used
    - Maps identifying monitoring areas, cross-sections, transects, etc.
    - Results of qualitative monitoring of site characteristics, functions and values
    - Copies of all field data sheets will be made available for review if requested

**Part III. – Threshold and Evaluation Criteria**

1. Describe how the water activity meets these **Threshold Criteria.** (Detailed in Part 3 of the Water Supply Reserve Account Criteria and Guidelines.)

    a) The water activity is consistent with Section 37-75-102 Colorado Revised Statutes.[1]

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[1] 37-75-102. Water rights - protections. (1) It is the policy of the General Assembly that the current system of allocating water within Colorado shall not be superseded, abrogated, or otherwise impaired by this article. Nothing in this article shall be interpreted to repeal or in any manner amend the existing water rights adjudication system. The General Assembly affirms the state constitution's recognition of water rights as a private usufructuary property right, and this article is not intended to restrict the ability of the holder of a water right to use or to dispose of that water right in any manner permitted under Colorado law. (2) The General Assembly affirms the protections for contractual and property rights recognized by the contract and takings protections under the state constitution and related statutes. This article shall not be implemented in any way that would diminish, impair, or cause injury to any property or contractual right created by intergovernmental agreements, contracts, stipulations among parties to water cases, terms and conditions in water decrees, or any other similar document related to the allocation or use of water. This article shall not be construed to supersede, abrogate, or cause injury to vested water rights or decreed conditional water rights. The General Assembly affirms that this article does not impair, limit, or otherwise affect

The Assessment does not supersede, abrogate or impair the current system of allocating water or affect existing water rights.

b) The water activity underwent an evaluation and approval process and was approved by the Basin Roundtable (BRT) and the application includes a description of the results of the BRTs evaluation and approval of the activity. At a minimum, the description must include the level of agreement reached by the roundtable, including any minority opinion(s) if there was not general agreement for the activity. The description must also include reasons why general agreement was not reached (if it was not), including who opposed the activity and why they opposed it. Note- If this information is included in the letter from the roundtable chair simply reference that letter.
We hope to complete this evaluation and approval at the Colorado River Basin Roundtable meeting on March 26, 2012.

c) The water activity meets the provisions of Section 37-75-104(2), Colorado Revised Statutes.[2] The Basin Roundtable Chairs shall include in their approval letters for particular WSRA grant applications a description of how the water activity will assist in meeting the water supply needs identified in the basin roundtable's consumptive and/or non-consumptive needs assessments.
We intend to solicit this approval letter at our presentation at to the Colorado River Basin Roundtable meeting on March 26, 2012.

d) Matching Requirement: <u>For requests from the **Statewide Fund**</u>, the applicants is required to demonstrate a **20 percent** (or greater) match of the request from the Statewide Account. Statewide requests must also include a minimum match of **5 percent** of the total grant amount from Basin Funds. Sources of matching funds include but are not limited to Basin Funds, in-kind services, funding from other sources, and/or direct cash match. Past expenditures directly related to the project may be considered as matching funds if the expenditures occurred within 9 months of the date the application was submitted to the CWCB. Please describe the source(s) of matching funds. (NOTE: These matching funds should also be reflected in your Detailed Budget in **Exhibit A** of this application)
The request from the Basin Roundtable totals $30,000 over two years. These funds are matched by a two-year grant from Eagle County's General Fund, the County's Open Space Fund and CSU totaling $56,501. This constitutes a 188% match for Basin Funds.

2. For Applications that include a request for funds from the **Statewide Account**, <u>describe how</u> the water activity/project meets all applicable **Evaluation Criteria.** (Detailed in Part 3 of the Water Supply Reserve Account Criteria and Guidelines and repeated below.) Projects will be assessed on how well they meet the Evaluation Criteria. **Please attach additional pages as necessary.**

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the rights of persons or entities to enter into agreements, contracts, or memoranda of understanding with other persons or entities relating to the appropriation, movement, or use of water under other provisions of law.

[2] 37-75-104 (2)(c). Using data and information from the Statewide Water Supply Initiative and other appropriate sources and in cooperation with the on-going Statewide Water Supply Initiative, develop a basin-wide consumptive and nonconsumptive water supply needs assessment, conduct an analysis of available unappropriated waters within the basin, and propose projects or methods, both structural and nonstructural, for meeting those needs and utilizing those unappropriated waters where appropriate. Basin Roundtables shall actively seek the input and advice of affected local governments, water providers, and other interested stakeholders and persons in establishing its needs assessment, and shall propose projects or methods for meeting those needs. Recommendations from this assessment shall be forwarded to the Interbasin Compact Committee and other basin roundtables for analysis and consideration after the General Assembly has approved the Interbasin Compact Charter.

**Evaluation Criteria** – the following criteria will be utilized to further evaluate the merits of the water activity proposed for funding from the Statewide Account. In evaluation of proposed water activities, preference will be given to projects that meet one or more criteria from each of the three "tiers" or categories. Each "tier" is grouped in level of importance. For instance, projects that meet Tier 1 criteria will outweigh projects that only meet Tier 3 criteria. WSRA grant requests for projects that may qualify for loans through the CWCB loan program will receive preference in the Statewide Evaluation Criteria if the grant request is part of a CWCB loan/WSRA grant package. For these CWCB loan/WSRA grant packages, the applicant must have a CWCB loan/WSRA grant ratio of 1:1 or higher. Preference will be given to those with a higher loan/grant ratio.

Tier 1: Promoting Collaboration/Cooperation and Meeting Water Management Goals and Identified Water Needs

a. The water activity addresses multiple needs or issues, including consumptive and/or non-consumptive needs, or the needs and issues of multiple interests or multiple basins. This can be demonstrated by obtaining letters of support from other basin roundtables (in addition to an approval letter from the sponsoring basin

The proposed CRIA project addresses multiple issues and needs arising from the lack of a comprehensive ecological inventory for the Eagle County reach of the Colorado River. This has significant implications for both existing and future non-consumptive and consumptive needs.

The lack of an ecological baseline and recommended restoration strategies on this reach of river jeopardizes environmental, recreation and consumptive uses on both public and private lands. This issue may have significant ramifications for multiple users, as for instance, the BLM has simultaneously recognized "Outstanding Resource Values" associated with recreational float boating, fishing and wildlife viewing while the same agency's 2012 draft Resource Management Plan identifies land along the reach as having "medium potential" for oil and gas leasing. The Eagle County Conservation District has identified this area as a streambank management zone, while the Colorado River Outfitters Association has identified significant future capacity for increased commercial boating on the reach from State Bridge to Glenwood Springs and Eagle County has acquired several open space parcels with the intent to increase recreational river access.

Pairing results of this baseline inventory with both upstream and downstream information and management plans for the river (including Grand County and the Middle Colorado River Partnership) has the potential to better manage and address future non-consumptive and consumptive interests on public and private land, and to preserve and enhance the Colorado River through the work of multiple jurisdictions, agencies and organizations.

b. The number and types of entities represented in the application and the degree to which the activity will promote cooperation and collaboration among traditional consumptive water interests and/or non-consumptive interests, and if applicable, the degree to which the water activity is effective in addressing intrabasin or interbasin needs or issues.

ERWC has initially identified the following entities as contributors to or stakeholders in the Inventory and Assessment:

Colorado State University; The Upper Colorado River Endangered Fish Recovery program; Eagle County and the Open Space Advisory Committee and the Wild & Scenic stakeholder group; Eagle Valley Land Trust; Colorado River Conservation District; Colorado Water Conservation Board/SWSI; Colorado Division of Parks and Wildlife; US

Bureau of Land Management; US Forest Service; US Geological Survey; Sonoran Institute Western Colorado Legacy Program; The Nature Conservancy (Colorado River Program); Middle Colorado River Watershed Partnership; Eagle County Conservation District; Eagle Valley Trout Unlimited; Colorado River Ranch and other residents along the Colorado River.
They will be engaged in Task 1, Stakeholder Coordination and Input, to ascertain pressing issues and potential restoration activities throughout the Basin.

Additionally, ERWC's traditional partners which include all the towns, metro districts, special water districts, many individuals, corporations and foundations within Eagle County, will be invited to express their areas of interest, if any, in the project.

Sharing results of this baseline inventory with both upstream and downstream information and management plans for the river (including Grand County and the Middle Colorado River Partnership) offers the potential to better manage and address future non-consumptive and consumptive interests on public and private land, and to preserve and enhance the Colorado River through the work of multiple jurisdictions, agencies and organizations.

c. The water activity helps implement projects and processes identified as helping meet Colorado's future water needs, and/or addresses the gap areas between available water supply and future need as identified in SWSI or a roundtable's basin-wide water needs assessment.
The science-based inventory and assessment is designed to understand and protect the health of the Colorado River in Eagle County. Available water will be evaluated and weighed against posited future needs, and recommendations will be generated for restoration and conservation projects.

Tier 2: Facilitating Water Activity Implementation

d. Funding from this Account will reduce the uncertainty that the water activity will be implemented. For this criterion the applicant should discuss how receiving funding from the Account will make a significant difference in the implementation of the water activity (i.e., how will receiving funding enable the water activity to move forward or the inability obtaining funding elsewhere).
ERWC has found that there are several grantors who will fund projects generated by the study, but not the study itself. By receiving funding from this Account, we will be able to commence the work and attract other funders who are looking for science-based information and/or shovel ready projects that will inform, conserve or restore the health of the Colorado River.

e. The amount of matching funds provided by the applicant via direct contributions, demonstrable in-kind contributions, and/or other sources demonstrates a significant & appropriate commitment to the project.
Matching funds from Eagle County's General Fund, CSU and Eagle County's Open Space Fund constitute a 188% match to Basin funds requested ($56,501 vs. $30,000). Additionally, $110,000 in funds will be requested from the State Account at their September 2012 meeting. We have received strong indications of support from CWCB.

Tier 3: The Water Activity Addresses Other Issues of Statewide Value and Maximizes Benefits

f. The water activity helps sustain agriculture & open space, or meets environmental or recreational needs.

This environmental inventory and assessment encompasses a corridor that is rural, with agriculture and ranching being the primary way of life. Information gained from the study may help sustain and enhance these activities, and create partnerships and direction to do so. Eagle County's Open Space Fund has displayed recent heightened interest in this watershed with land purchases focusing on future recreation. The study will inform future recreation plans.

g. The water activity assists in the administration of compact-entitled waters or addresses problems related to compact entitled waters and compact compliance and the degree to which the activity promotes maximum utilization of state waters.

h. The water activity assists in the recovery of threatened and endangered wildlife species or Colorado State species of concern.
The project seeks to identify and evaluate threatened or endangered fish and/or riparian wildlife with the objective of the conservation and/or restoration of their habitats which could assist in their recovery.

i. The water activity provides a high level of benefit to Colorado in relationship to the amount of funds requested.
Our previous Eagle River Inventory and Assessment (2005) by Dr. Brian Bledsoe generated more than $7 million invested in projects in Eagle County by various stakeholders in order to implement CSU's identified restoration strategies, leveraging the initial study investment by a remarkable 7,000%. We feel this proposed project by Dr. Bledsoe will have similar beneficial results to Colorado.

j. The water activity is complimentary to or assists in the implementation of other CWCB programs.
The CWCB has recently approved a motion to appropriate in-stream flow rights in this section of the Colorado River - the first ever legal protection designed to ensure a minimum amount of water is maintained in the river to sustain healthy fish populations. This study is designed to further identify threats to the aquatic population and define prioritized solutions to those threats.

Continued: Explanation of how the water activity/project meets all applicable **Evaluation Criteria**.
**Please attach additional pages as necessary.**

**Part IV. – Required Supporting Material**

1. **Water Rights, Availability, and Sustainability** – This information is needed to assess the viability of the water project or activity. Please provide a description of the water supply source to be utilized, or the water body to be affected by, the water activity. This should include a description of applicable water rights, and water rights issues, and the name/location of water bodies affected by the water activity.
The proposed study of the Colorado River and tributaries in Eagle County is nonconsumptive of water and may include water rights issues when completed.

2. Please provide a brief narrative of any related studies or permitting issues.

There are no permitting issues.

We will incorporate review of all existing data and study of the Colorado River during the collection and assessment phase of the project, including work gathered by various

agencies and organizations within the watershed. A study by Tetra Tech in 2008, entitled "Colorado River Flow Regimes," evaluated trends in flow alterations and developed flow recommendations for planning for future flow modifications.

Other existing known data sources or data partners may include the following: Colorado Interbasin Compact Committee; Colorado Basin Roundtable; The Upper Colorado River Endangered Fish Recovery program; Eagle County and the Wild & Scenic stakeholder group; Grand County Water Resource Management & Grand County Water Information Network; Garfield County; Colorado River Conservation District; Colorado Water Conservation Board/SWSI; Colorado Division of Wildlife; US Bureau of Land Management; US Forest Service; US Geological Survey; US Office of Surface Mining; Sonoran Institute Western Colorado Legacy Program; The Nature Conservancy (Colorado River Program); Middle Colorado River Watershed Partnership & Roaring Fork Conservancy; Natural Resources Conservation Service and Eagle County Conservation District; Northwest Colorado Council of Governments.

3. Statement of Work, Detailed Budget, and Project Schedule

The statement of work will form the basis for the contract between the Applicant and the State of Colorado. In short, the Applicant is agreeing to undertake the work for the compensation outlined in the statement of work and budget, and in return, the State of Colorado is receiving the deliverables/products specified. **Please note that costs incurred prior to execution of a contract or purchase order are not subject to reimbursement**. All WSRA funds are disbursed on a reimbursement basis after review invoices and appropriate backup material.

**Please provide a detailed statement of work using the template in Exhibit A.** Additional sections or modifications may be included as necessary. Please define all acronyms and include page numbers.

# COLORADO RIVER INVENTORY AND ASSESSMENT

## Exhibit A
## Statement of Work

**WATER ACTIVITY NAME** – Colorado River Inventory and Assessment

**GRANT RECIPIENT** – Eagle River Watershed Council, Inc.

**FUNDING SOURCE** – Colorado River Basin Roundtable Water Supply reserve Account

**INTRODUCTION AND BACKGROUND**

In 1996 a group of stakeholders interested in monitoring the clean up of the Eagle Mine Superfund Site produced the Eagle River Watershed Plan which recommended the formal creation of an Eagle River Watershed Council (ERWC). That same document also outlined a collaborative, local philosophy for protecting and improving water quality, quantity, wildlife habitat and recreational opportunities and promoting compatible land use practices. The Plan focused exclusively on the Eagle River watershed.

As one of its projects ERWC worked with Colorado State University (CSU) to create a study entitled "Eagle River Inventory and Assessment (ERIA)" which was produced by Dr. Brian Bledsoe in 2005. That study also focused exclusively on assessment of the Eagle River watershed from a basinwide ecological perspective with the objective of defining and prioritizing potential restoration activities to improve the integrity of the river system. Bledsoe's science-based study has since been ERWC's guiding document with regard to restoration projects and strategy development.

Today ERWC is in the process of updating the 16 year old Eagle River Watershed Plan – and adding the Colorado River watershed in Eagle County. This process has led to the realization that there is little data about a river which flows nearly 60 miles through Eagle County. There is no inventory of the ecology of the river corridor outlining what needs to be preserved or restored that directs community or state investment. We are proposing funding a science-based Inventory and Asessement of the ecological setting of the Colorado River corridor that will have lasting value for future land use decision making, conservation funding, enhancement and other agriculture, recreation or wildlife-based projects that benefit Eagle County and its tourism-based economy

**OBJECTIVES**

- To create a science-based, overall study of the Colorado River corridor, its inhabitants and ecosystems, that will delineate a prioritized list of needed restoration and conservation projects.
- To understand the ecological setting of the Colorado River corridor in order to preserve those values with future land use decision making, conservation funding, enhancement and other agriculture, recreation or wildlife-based projects that benefit Eagle County and its tourism-based economy.
- To utilize the report to educate our community and state, and to help us obtain public support and funding for these projects

# COLORADO RIVER INVENTORY AND ASSESSMENT

## Exhibit A
## Statement of Work

**WATER ACTIVITY NAME** – Colorado River Inventory and Assessment

**GRANT RECIPIENT** – Eagle River Watershed Council, Inc.

**FUNDING SOURCE** – Colorado River Basin Roundtable Account and State Account

**INTRODUCTION AND BACKGROUND**

In 1996 a group of stakeholders interested in monitoring the clean up of the Eagle Mine Superfund Site produced the Eagle River Watershed Plan which recommended the formal creation of an Eagle River Watershed Council (ERWC). That same document also outlined a collaborative, local philosophy for protecting and improving water quality, quantity, wildlife habitat and recreational opportunities and promoting compatible land use practices. The Plan focused exclusively on the Eagle River watershed.

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- To utilize the report to educate our community and state, and to help us obtain public support and funding for these projects

**TASK 1 – Stakeholder Coordination and Input**

Method/Procedure

The Eagle River Watershed Council, in coordination with Colorado State University (CSU), shall convene the stakeholder group as part of the project outreach to identify and better define the most pressing issues and potential restoration activities throughout the basin prior to CSU field work.

At a minimum this work will be important to identify critical questions about the watershed as well as a set of candidate restoration projects. The stakeholder input will be augmented through field reconnaissance, statistical analysis and a multi-criterion decision analysis approach to rank the ecological effectiveness of potential projects.

Stakeholders will be collaboratively identified by the Eagle River Watershed Council staff, and interviews will be conducted in group or individual settings ahead of field inventory and literature review. Preliminarily identified stakeholders in the project include, but are not limited to: Eagle County, NRCS, Eagle County Soil Conservation District, Colorado Division of Parks and Wildlife, Colorado River Water Conservation District, BLM, USFS, USGS, USACE, Trout Unlimited, Colorado River Outfitters Association, The Nature Conservancy, Sonoran Institute, CSU and significant landowners as well as major water rights owners.

Deliverable

A printed and electronic summary Stakeholder Input report for CSU and ERWC use as part of the project.

**TASK 2 – Data Inventory & Literature Review**

Method/Procedure

CSU, in coordination with ERWC, will identify and analyze existing monitoring data and information to assess the status of river, including the identification of any data gaps. This will include a literature review of all known data for the Colorado, including data which might overlap with upstream or downstream reaches, as well as any data provided through Task 1 (meetings with watershed stakeholders, and local, state and federal scientists).

Deliverable

A printed and electronic summary of Data Inventory & Literature Review for CSU and ERWC use as part of the project.

**TASK 3 – Inventory and Synoptic Field Survey**

Method/Procedure

CSU, in coordination with ERWC, will inventory channel, riparian, and upland characteristics within Eagle County that influence the ecological integrity, recreational amenities, and aesthetic values of the Colorado River and its major tributaries in the reach. This task will include conducting synoptic field surveys of riparian condition, of chemical, physical, and biological water quality, and of geomorphic attributes to supplement existing information. The step will also require GIS inventory and analysis of riparian conditions, land cover, geomorphic processes, etc., in coordination with Eagle County GIS Department and other applicable agencies.

Deliverable
Field survey data sheets, which may also include printed and electronic summaries, synoptic survey and mapping as applicable, to be utilized in the production of final CRIA report.

**TASK 4 – Candidate Rehabilitation Projects List & Review**
Method/Procedure
CSU, in coordination with the ERWC, will utilize findings of Tasks 1 through 3 to identify and describe candidate rehabilitation projects (structural and non-structural) and link to current issues and likely outcomes based upon field reconnaissance, stakeholder input, and scientific assessment.

Deliverable
Draft candidate rehabilitation projects list, to be coordinated and reviewed with ERWC staff and key project stakeholders, to be utilized in production of final CRIA assessment and report. Draft projects list will be prioritized based on likelihood of success, potential benefits, rough estimates of costs, and stakeholder input using a multi-criterion decision analysis (MCDA) approach to rank the ecological effectiveness of potential projects.

**TASK 5 – Draft Colorado River Inventory & Assessment (CRIA) Report**
Method/Procedure
CSU, in coordination with ERWC, will produce a report describing the results of the river corridor inventory and prioritized recommendations for rehabilitation projects following the updated approach and template of the 2005 Eagle River Inventory and Assessment.

Deliverable
The final CRIA report will include the following:

- Description of candidate rehabilitation and other projects (structural and non-structural) identified during the inventory
- Prioritized list of rehabilitation strategies based upon likelihood of success, potential benefits and rough estimates of cost
- MCDA (multi-criteria decision analysis) spreadsheet tool used to rank candidate projects
- Detailed description of the methods in the inventory and analysis of candidate rehabilitation projects
- List of names, titles and affiliations of all persons who prepared the content of the report and participated in the monitoring activities
- Analysis of all quantitative monitoring data using graph and table formats when appropriate
- Prints or colored photocopies of all photographs used
- Maps identifying monitoring areas, cross-sections, transects, etc.
- Results of qualitative monitoring of site characteristics, functions and values

## COLORADO RIVER INVENTORY & ASSESSMENT

### EXPENSES

| Tasks | Project Manager ERWC | Project Consultant CSU | CSU PhD candidate | CSU researcher | ERWC staff & supplies | CSU Materials & Supplies | CSU travel | Total Expenses |
|---|---|---|---|---|---|---|---|---|
| **Task 1** - Stakeholder Coordination & Input | $ 12,000 | $ 2,000 | $ 10,000 | $ 1,000 | $ 577 | | $ 800 | $ 26,377 |
| **Task 2** - Data Inventory & Literature Review | $ 12,000 | $ 3,000 | $ 10,000 | $ 2,000 | $ 100 | | $ 400 | $ 27,500 |
| **Task 3** - Physical Inventory & Synoptic Field Survey | $ 4,000 | $ 10,000 | $ 26,000 | $ 19,993 | $ 100 | $ 900 | $ 4,000 | $ 64,993 |
| **Task 4** - Candidate Rehabilitation Projects List & Review | $ 6,000 | $ 9,000 | $ 10,967 | $ 7,700 | $ 100 | $ 936 | $ 800 | $ 35,503 |
| **Task 5** - Co. River Inventory & Assessment Report | $ 14,000 | $ 8,828 | $ 14,000 | $ 2,700 | $ 2,000 | | $ 600 | $ 42,128 |
| Total Expenses | $ 48,000 | $ 32,828 | $ 70,967 | $ 33,393 | $ 2,877 | $ 1,836 | $ 6,600 | $ 196,501 |

## COLORADO RIVER INVENTORY & ASSESSMENT

### INCOME

| Tasks | CSU | Basin Roundtable | State WRSA fund | Eagle County | OSAC | Total Income |
|---|---|---|---|---|---|---|
| **Task 1** - Stakeholder Coordination & Input | $ 585 | | | $ 17,500 | $ 8,292 | $ 26,377 |
| **Task 2** - Data Inventory & Literature Review | $ 715 | $ 15,000 | $ 2,577 | | $ 9,208 | $ 27,500 |
| **Task 3** - Physical Inventory & Synoptic Field Survey | $ 2,666 | $ 15,000 | $ 47,327 | | | $ 64,993 |
| **Task 4** - Candidate Rehabilitation Projects List & Review | $ 1,300 | | $ 19,203 | $ 7,500 | $ 7,500 | $ 35,503 |
| **Task 5** - Co. River Inventory & Assessment Report | $ 1,235 | | $ 40,893 | | | $ 42,128 |
| Total Income | $ 6,501 | $ 30,000 | $ 110,000 | $ 25,000 | $ 25,000 | $ 196,501 |

## Colorado River Inventory and Assessment Timeline

| Tasks | 2013 | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | May | June | July | Aug | Sept | Oct | Nov | Dec | Jan | Feb | March | April | May | June | July | Aug | Sept | Oct | Nov | Dec | | |
| **Task 1** - Stakeholder Coordination & Input | | | | | | | | | | | | | | | | | | | | | | |
| **Task 2** - Data Inventory & Literature Review | | | | | | | | | | | | | | | | | | | | | | |
| **Task 3** - Physical Inventory & Synoptic Field Survey | | | | | | | | | | | | | | | | | | | | | | |
| **Task 4** - Candidate Rehabilitation Projects List & Review | | | | | | | | | | | | | | | | | | | | | | |
| **Task 5** - Co. River Inventory & Assessment Report | | | | | | | | | | | | | | | | | | | | | | |

OFFICE OF THE
BOARD OF COMMISSIONERS
970-328-8605
FAX: 970-328-8629
email:eagleadmin@eaglecounty.us
www.eaglecounty.us

EAGLE COUNTY

PETER F. RUNYON
JON STAVNEY
SARA J. FISHER

February 27, 2012

Colorado River Basin Roundtable
c/o Jim Pokrandt
Colorado River Water Conservation District
P.O. Box 1120
Glenwood Springs, CO 81602

**Re: Eagle River Watershed Council Colorado River Inventory and Assessment Project**

Dear Roundtable Members:

Eagle County is submitting this letter in support of the Eagle River Watershed Council (ERWC) grant application for the Colorado River Inventory and Assessment Project (CRIA). The project is already receiving funding from Eagle County and the Eagle County Open Space Advisory Committee, and we request your sponsorship of the grant.

Eagle County recognizes the importance of a good ecological baseline assessment of the reach of the Colorado River through Eagle County. Currently, there is no inventory of the river corridor outlining what areas should be preserved or restored that can help direct future community or State investment. As your members may be aware, Eagle County has made significant and strategic open space acquisitions over the last two years along this reach of the river in an effort to enhance recreational river access from State Bridge to Dotsero.

Funding a science-based inventory and assessment of the ecological setting of the Colorado River corridor will have lasting value for future land use decision making, conservation funding, water resource enhancement and other agriculture, recreation or wildlife-based projects that benefit Eagle County and its tourism-based economy.

The CRIA project, managed by ERWC in partnership with Colorado State University Engineering Research Center, should not be viewed as simply another 'study'. Instead, it will yield a comprehensive baseline inventory of ecological issues and prioritization of restoration efforts – an approach that has already proven instrumental in directing major community partnerships on the Eagle River since 2006.

Eagle County supports this effort wholeheartedly and looks forward to your endorsement of the enclosed project grant application.

Sincerely,
**Eagle County Board of Commissioners**

Peter F. Runyon
Chairman

Jon Stavney
Commissioner

Sara J. Fisher
Commissioner

March 6, 2012

Colorado River Basin Roundtable
Colorado River Water Conservation District
P.O. Box 1120
Glenwood Springs, CO 81602

Re: Eagle River Watershed Council Colorado River Inventory & Assessment

Dear Roundtable:

We are writing on behalf of the local, Eagle Valley Chapter of Trout Unlimited in support of the Eagle River Watershed Council's (ERWC) grant application for their Colorado Inventory and Assessment Project. We have spoken at length with our partners at the ERWC and feel strongly that our mission to conserve, protect and restore North America's cold water fisheries aligns with their vision to provide a scientific approach, aimed at protecting and enhancing this valuable resource in Eagle County.

Furthermore, the development of a plan now and its potential impact on water resource management in the future is essential to the sustainability of the Colorado River for generations to come. Please do not hesitate to contact us at any time should you like to discuss further our stance on this issue.

Sincerely,

Nick Rader
President/Eagle Valley Trout Unlimited

Alex Schaefer
Past President/Eagle Valley Trout Unlimited

**Eagle Valley Trout Unlimited**
**P.O. Box 6353**
**Vail, CO 81658**
**www.eaglevalleytu.org**

# NORTH PLATTE BASIN ROUNDTABLE

Wm. Kent Crowder, Chair
P.O. Box 1019
Walden, Colorado 80480

FAX (970) 723-4706
(970) 723-4660

March 27, 2012

Mr. Todd Doherty
Colorado Water Conservation Board
Water Supply Planning Section
WSRA Application
1580 Logan Street, Suite 200
Denver, CO 80203

Re: Water Supply Reserve Account Grant Application for Jackson County Water Conservancy District's Structures for Water Control: Headgates and Diversion – Additional Funds Request - $55,055.00 Basin Account WSRA Funds

Dear Mr. Doherty:

This letter is to advise you that the grant application for $55,055.00 in additional Basin Account funds for Jackson County Water Conservancy District's Structures for Water Control: Headgates and Diversion –Additional Funds Request was reviewed by the North Platte Basin Roundtable (NPBRT) and evaluated utilizing the NPBRT Water Supply Reserve Account Grant Evaluation Criteria. During the March 2012 North Platte Basin Roundtable meeting, nine voting members of the NPBRT voted to approve the project and the requested WSRA funding and one voting member, Jimmer Baller, abstained from voting because he is an involved landowner and a direct beneficiary of the project. A minority report is not required because there were no dissenting votes.

The NPBRT has identified the development of the full allocation of irrigated acres in the North Platte Basin allowed under the equitable apportionment Supreme Court Decree and the Three States Agreement as a very high priority consumptive need. This project will provide additional funds to pay for increases in the costs for material and labor for the construction costs of the water control structures that were originally estimated in April 2011. The replacement of four old, deteriorating headgate structures and the installation of one new, permanent diversion structure within Jackson County will allow the involved water users to safely, effectively and efficiently control and regulate the amount of water needed to irrigate associated lands and the new diversion structure will eliminate annual damage to the stream banks and reduce sediment discharge. Installing these improved structures will not only help to maintain our current agricultural economic base, but they will help to meet the identified consumptive need of increasing irrigated acres within the county. This project will help meet both consumptive and non-consumptive needs identified by the NPBRT. The higher degree of control and efficiency provided by these structures will benefit all consumptive and non-consumptive uses of water diverted for irrigation. Improved water efficiency is a benefit to all consumptive and associated non-consumptive uses of irrigation water.

Please feel free to call me with any questions that you may have regarding the North Platte Basin Roundtable meeting or our level of support for this project.

Sincerely,

Wm. Kent Crowder

Wm. Kent Crowder, Chair
North Platte Basin Roundtable

cc: Jackson County Water Conservancy District

# COLORADO WATER CONSERVATION BOARD

## WATER SUPPLY RESERVE ACCOUNT
## GRANT APPLICATION FORM

**Jackson County Water Conservancy District's**
**Structures For Water Control: Headgates and Diversion – Additional Funds Request**

**Name of Water Activity/Project** | **Approving Basin Roundtable**

| | | | |
|---|---|---|---|
| $55,055.00 | **Total Amount of Funds Requested** | **Amount from Statewide Account** | 0.00 |
| | | **Amount from Basin Account** | $55,055.00 |

## Application Content



Attachments

1. Reference Information
2. Insurance Requirements (Projects Over $25,000)
3. WSRA Standard Contract (Projects Over $100,000)
4. W-9 Form (Required for All Projects)

## Instructions

To receive funding from the Water Supply Reserve Account (WSRA), a proposed water activity must be approved by the local Basin Roundtable AND the Colorado Water Conservation Board (CWCB). The process for Basin Roundtable consideration/approval is outlined in Attachment 1.

Once approved by the local Basin Roundtable, the applicant should submit this application, a detailed statement of work, detailed project budget, and project schedule to the CWCB staff by the application deadline.

The application deadlines are:

* Basin Account – 60 calendar days prior to the bi-monthly Board meeting
* Statewide Account – 60 calendar days prior to the September Board meeting

| Board Meeting Dates | Basin Account Deadlines | Statewide Account Deadlines |
|---|---|---|
| July 20-21, 2010 | May 21, 2010 | n/a |
| September 21-22 | July 23, 2010 | July 23, 2010 |
| November 16-17 | September 17, 2010 | n/a |
| January 2011 | 60 days prior | n/a |
| March 2011 | 60 days prior | n/a |
| May 2011 | 60 days prior | n/a |
| July 2011 | 60 days prior | n/a |
| September 2011 | 60 days prior | 60 days prior |

When completing this application, the applicant should refer to the WSRA Criteria and Guidelines available at: http://cwcb.state.co.us/IWMD.

The application, statement of work, budget, and schedule must be submitted in electronic format (Microsoft Word or text-enabled PDF are preferred) and can be emailed or mailed on a disk to:

Mr. Todd Doherty
Colorado Water Conservation Board
Water Supply Planning Section
WSRA Application
1580 Logan Street, Suite 200
Denver, CO 80203
Todd.Doherty@state.co.us

If you have questions or need additional assistance, please contact Todd Doherty of the Water Supply Planning Section at 303-866-3441 x3210 or todd.doherty@state.co.us.

**Part A. - Description of the Applicant (Project Sponsor or Owner);**

1. Applicant Name(s): **Jackson County Water Conservancy District**

Mailing address: **P.O. Box 1019**
**Walden, CO. 80480**
**Attention: Kent Crowder**

ID#: **84-0934121** Email address: **kentcrowder@aol.com**

Phone Numbers: Office: **970-723-4660**
Cell: **970-218-4532**
Fax: **970-723-4706**

2. **Person to contact regarding this application if different from above:**

Name: **Kent Crowder**

Position/Title **Board President**

**3. Eligible entities that may apply for grants from the WSRA include the following. What type of entity is the Applicant?**

[ ] Public (Government) – municipalities, enterprises, counties, and State of Colorado agencies. Federal agencies are encouraged to work with local entities and the local entity should be the grant recipient. Federal agencies are eligible, but only if they can make a compelling case for why a local partner cannot be the grant recipient.

[x] Public (Districts) – special, water and sanitation, conservancy, conservation, irrigation, or water activity enterprises.

[ ] Private Incorporated – mutual ditch companies, homeowners associations, corporations.

[ ] Private individuals, partnerships, and sole proprietors are eligible for funding from the Basin Accounts but not for funding from the Statewide Account.

[ ] Non-governmental organizations – broadly defined as any organization that is not part of the government.

**4. Provide a brief description of your organization**

The owners of the irrigated and non-irrigated lands, and the lands embraced in the incorporated limits of towns, all situated within the limits of Jackson County, petitioned for the formation of the Jackson County Water Conservancy District under the provisions of Article VI of Chapter 149, Colorado Revised Statutes 1953, as amended, and the Jackson County Water Conservancy District was created by order of the District Court in and for the County of Jackson State of Colorado on the 7th day of November 1961. The board consists of 7elected directors, 1 from each division.

The Jackson County Water Conservancy District (JCWCD) was formed as a political subdivision of the State of Colorado and a body corporate with all the powers of a public corporation with the boundaries of the District being co-extensive with the exterior boundary lines of Jackson County, Colorado. The District was established to obtain, from water originating in Colorado, the highest duty for domestic uses, irrigation, and future development pursuant to the equitable apportionment provisions of *Nebraska v. Wyoming*, 325 U.S. 589 (1945) as modified in 345 U.S. 981 (1953) (the "U.S. Supreme Court Decree").

**5. If the Contracting Entity is different then the Applicant (Project Sponsor or Owner) please describe the Contracting Entity here.**

Not applicable

**6. Successful applicants will have to execute a contract with the CWCB prior to beginning work on the portion of the project funded by the WSRA grant. In order to expedite the contracting process the CWCB has established a standard contract with provisions the applicant must adhere to. A copy of this standard contract is included in Attachment 3. Please review this contract and check the appropriate box.**

[x] The Applicant will be able to contract with the CWCB using the Standard Contract

[ ] The Applicant has reviewed the standard contract and has some questions/issues/concerns. Please be aware that any deviation from the standard contract could result in a significant delay between grant approval and the funds being available.

**7. The Tax Payer Bill of Rights (TABOR) may limit the amount of grant money an entity can receive. Please describe any relevant TABOR issues that may affect the applicant.**

Not Applicable. The JCWCD has been de-Bruced by approval of the voters of the district.

**Part B. - Description of the Water Activity**

**1. Name of the Water Activity/Project:**

*Jackson County Water Conservancy District's*
*Structures for Water Control: Headgates and Diversion – Additional Funds Request*

**2. What is the purpose of this grant application? (Please check all that apply.)**

[ ] Environmental compliance and feasibility study

[ ] Technical Assistance regarding permitting, feasibility studies, and environmental compliance

[ ] Studies or analysis of structural, nonstructural, consumptive, nonconsumptive water needs, projects

Study or Analysis of:

- [ ] Structural project or activity
- [ ] Nonstructural project or activity
- [ ] Consumptive project or activity
- [ ] Non-consumptive project or activity

[x] Structural and/ or nonstructural water project or activity

**3. Please provide an overview/summary of the proposed water activity (no more than one page). Include a description of the overall water activity and specifically what the WSRA funding will be used for.**

***This application is a request for additional WSRA funds. The requested additional funds are needed to assist with the increased cost of materials and labor in the construction and installation of the described Structures For Water Control within this application. The requested amount reflects the increase in costs since the original date of the price estimates (April, 2011), to the planned installation date (October, 2012).***

***The applicant, water activity, and threshold/evaluation criteria all remain the same as in the original application: Jackson County Water Conservancy District's Structures For Water Control: Headgates and Diversion – Grant Contract/Purchase Order No: C150488. Only the Budget portion of Part D. Supporting Materials, Section 3. Statement of Work, Detailed Budget, and Project Schedule, has been changed. Reference: Part D., Section 3. - Revised Budget.***

The Jackson County Water Conservancy District, proposes to replace four old, deteriorating headgate structures and install one new, permanent diversion structure within Jackson County. Each of the proposed structures is critical in the delivery of irrigation water to storage and/or to irrigated ground.

Currently the existing headgate structures are in extremely poor condition. They are deteriorating and incapable of safely, effectively and efficiently controlling and regulating water flow into the Bostwick, Mutual, Staples 1, and Squibob ditches. At the present time, there is no permanent diversion structure, in the Michigan River. A temporary combination of rocks, sod, pipe and wire panels are annually installed in order to divert water into the Richmond Ditch.

The proposed new headgate structures will allow the water user's to safely, effectively and efficiently control and regulate the amount of water entering each of the associated ditches. The proposed diversion structure will serve as a permanent check structure, thus eliminating annual damage to the streambanks and reducing sediment discharge. Installing these improved structures will not only help to maintain our current agricultural economic base, but they will help to meet the identified consumptive need of increasing irrigated acres within the county. Improved water efficiency is a benefit to all consumptive and associated non-consumptive uses of irrigation water.

The installation of the structures will also address both the agricultural and environmental water needs in a cost effective, collaborative way. The structures proposed, on the five different ditches, provide irrigation water to nineteen different individuals and entities that irrigate over 12,000 acres of hay and pasture land in Jackson County. In addition to irrigating the highly valuable hayland, the irrigation water creates irrigation induced wetlands and riparian areas that provide habitat for many species of big game, waterfowl and upland birds, including the Greater Sage Grouse. The ditches, wetlands and riparian areas all provide a variety of recreational opportunities as well.

The Jackson County Water Conservancy District has received technical and engineering assistance through the Natural Resources Conservation Service (NRCS) for the survey and design of the proposed structures.

NRCS will continue to provide technical support throughout the construction, revegetation, and maintenance phases of the project.

Ninety percent of the requested WSRA funds will be used in the actual construction and installation of the new, shovel ready structure projects. The remaining ten percent of the requested funds will be used for the clerical/administration costs associate with the projects.

**Part C. – Threshold and Evaluation Criteria**

**1. <u>Describe how</u> the water activity meets these Threshold Criteria. (Detailed in Part 3 of the Water Supply Reserve Account Criteria and Guidelines.)**

a. The participants and the projects are all eligible under the criteria outlined in "Threshold Criteria (a.)".
b. The water activity will be consistent with Section 37-75-102 Colorado Revised Statutes.[1] Implementation of this project will not harm, nor adversely affect any other appropriations, but will in fact improve the water holder's and commissioner's abilities to better manage the water rights associated with the Bostwick, Mutual, Staples 1., Squibob and Richmond Ditches.
c. This proposal will be evaluated by the North Park Basin Round Table (NPBRT) at their June, 2011 meeting. Results of their evaluation and decision will be submitted in the future.
d. M r. Kent Crowder, Chairman of NPBRT, has provided the attached letter of approval of this application.

[1] *37-75-102. Water rights - protections. (1) It is the policy of the General Assembly that the current system of allocating water within Colorado shall not be superseded, abrogated, or otherwise impaired by this article. Nothing in this article shall be interpreted to repeal or in any manner amend the existing water rights adjudication system. The General Assembly affirms the state constitution's recognition of water rights as a private usufructuary property right, and this article is not intended to restrict the ability of the holder of a water right to use or to dispose of that water right in any manner permitted under Colorado law. (2) The General Assembly affirms the protections for contractual and property rights recognized by the contract and takings protections under the state constitution and related statutes. This article shall not be implemented in any way that would diminish, impair, or cause injury to any property or contractual right created by intergovernmental agreements, contracts, stipulations among parties to water cases, terms and conditions in water decrees, or any other similar document related to the allocation or use of water. This article shall not be construed to supersede, abrogate, or cause injury to vested water rights or decreed conditional water rights. The General Assembly affirms that this article does not impair, limit, or otherwise affect the rights of persons or entities to enter into agreements, contracts, or memoranda of understanding with other persons or entities relating to the appropriation, movement, or use of water under other provisions of law.*

2. **Matching Requirement: <u>For requests from the Statewide Fund</u>, the applicants is required to demonstrate a 20 percent (or greater) match of the request from the Statewide Account. Sources of matching funds include but are not limited to Basin Funds, in-kind services, funding from other sources, and/or direct cash match. Past expenditures directly related to the project may be considered as matching funds if the expenditures occurred within 9 months of the date the application was submitted to the CWCB. Please describe the source(s) of matching funds. (NOTE: These matching funds should also be reflected in your Detailed Budget in Part D of this application)**

This is not a request for Statewide Account funds.

3. **For Applications that include a request for funds from the Statewide Account, <u>describe how</u> the water activity meets the Evaluation Criteria. (Detailed in Part 3 of the Water Supply Reserve Account Criteria and Guidelines.)**

Not Applicable – No statewide funds requested.

**Part D. – Required Supporting Material**

1. **Water Rights, Availability, and Sustainability**

**The Bostwick Ditch:** Donald Culver and Silver Spur Ranches own a total of 82.5 cubic feet of irrigation and stock water.

**The Mutual Ditch:** Evans Cattle Co., Kohlmans O.K. LP, Boyer Ridge, Felch & Nichols, Ray Stevens Trust and James Elliot own a total of 158 cubic feet of irrigation, stock and domestic water.

**The Staples 1. Ditch:** Jim Chance, AH VanValkenburg and Gruber own a total of 100 cubic feet of irrigation water.

**The Squibob Ditch:** Baller Livestock, Bernard Gateau, Michigan River Cons District and Markus Funk owns a total of 106.5 cubic feet of irrigation and stock water.

**The Richmond Ditch:** Murphy Ranch owns a total of 6 cubic feet of irrigation water.

**** Reference: the attached water right information.

Each of the above ditches shall be affected by the installation of the new structures. However, measures shall be taken to assure that implementation of this project will not harm nor adversely affect any appropriations, but will in fact improve the water user's and commissioner's abilities to better manage the water rights and flows associated with the Bostwick, Mutual, Staples 1., Squibob and Richmond Ditches.

**2. Please provide a brief narrative of any related or relevant previous studies.**

Not Applicable

**3. Statement of Work, Detailed Budget, and Project Schedule**

## Statement of Work

**WATER ACTIVITY NAME – Jackson County Water Conservancy District's Structures For Water Control: Headgates and Diversion – Additional Funds Request**

**GRANT RECIPIENT – Jackson County Water Conservancy District**

**FUNDING SOURCE – WSRA: North Platte Basin Roundtable Allocation**

**INTRODUCTION AND BACKGROUND:**

Provide a brief description of the project. (Please limit to no more than 200 words; this will be used to inform reviewers and the public about your proposal)

The Jackson County Water Conservancy District, proposes to replace four old, deteriorating headgate structures and install one new, permanent diversion structure within Jackson County. Each of the proposed structures is critical in the delivery of irrigation water to storage and/or to irrigated ground.

The proposed new headgate structures will allow the water user's to safely, effectively and efficiently control and regulate the amount of water entering each of the associated ditches. The proposed diversion structure will serve as a permanent check structure, thus eliminating annual damage to the streambanks and reducing sediment discharge. Installing these improved structures will not only help to maintain our current agricultural economic base, but they will help to meet the identified consumptive need of increasing irrigated acres within the county. Improved water efficiency is a benefit to all consumptive and associated non-consumptive uses of irrigation water.

The installation of the structures will also address both the agricultural and environmental water needs in a cost effective, collaborative way. In addition to irrigating the highly valuable hayland, the irrigation water

creates irrigation induced wetlands and riparian areas that provide habitat for many species of big game, waterfowl and upland birds, including the Greater Sage Grouse. The ditches, wetlands and riparian areas all provide a variety of recreational opportunities as well.

The Jackson County Water Conservancy District has received technical and engineering assistance through the Natural Resources Conservation Service (NRCS) for the survey and design of the proposed structures. NRCS will continue to provide technical support throughout the construction, revegetation, and maintenance phases of the project.

**OBJECTIVES:**

1. To install Structures for Water Control that will safely, efficiently and effectively control or divert water flows into the Bostwick, Mutual, Staples 1., Squibob and Richmond Ditches.
2. To provide the water users and commissioners with a better means of controlling and administering the water rights and flows associated with each of the ditches above.

**TASKS:**

**TASK 1 – Determination of Project Need and Feasibility (COMPLETED)**

*Description of Task* – Determine the need and feasibility of installing the new structures.

*Method/Procedure* – Site visits: A owner representative for each of the proposed structures and a NRCS Representative shall view and inspect each of the proposed structures.

- ✓ Assessed the current condition of each of the existing structures and determined the need, feasibility and cost of installing new structures.

*Deliverable* – Proposed structures were determined to be needed and feasible.

**TASK 2 – Engineering Survey and Design (COMPLETED)**

*Description of Task* - Perform the on-site engineering survey and design the planned structures.

*Method/Procedure* - Follow-up visit: NRCS staff

- ✓ Surveyed and designed each of the proposed structures.

*Deliverable* – An engineering plan, structure design and copy of NRCS's Standards and Specifications shall be provided to the owner representative for each structure once application is approved. Each structure is now a **shovel ready project**.

**** Reference: the attached NRCS Structure for Water Control designs.

**TASK 3 – Project Construction and Installation**

*Description of Task* – The planned Structures for Water Control shall be installed.

*Method/Procedure* – On site: Contractor (NRCS staff and owner representative when needed)

- ✓ the structures shall be constructed/installed
- ✓ the sites shall be smoothed and reseeded

*Deliverable* - Complete and properly functioning Structures for Water Control.

**REPORTING AND FINAL DELIVERABLE**

Reporting: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the statement of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Deliverable: At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

- ✓ ***A final report will be provided to the CWCB after the construction and installation of the project is completed.***

## REVISED BUDGET

| REVISED COSTS/BUDGETED EXPENDITURES | | | | |
|---|---|---|---|---|
| ***Task*** | ***Description: Labor/Equipment/Materials*** | ***Original Estimated Costs/ Expenditures*** | ***Revised Estimated Costs/ Expenditures*** | ***Increase (Decrease)*** |
| Task 1 - Need and Feasibility | NRCS Staff/ Project Contact Person: In-Kind Contribution | $ 1,500.00 | $ 1,500.00 | 0 |
| Task 2 - Survey and Design | NRCS Staff/ Engineering: In-Kind Contribution | $ 12,000.00 | $ 12,000.00 | 0 |
| Task 3 - Construction and Installation of Water Control Structures | Materials, Equipment, Labor and Supervision Supplied by Contractors under Contract with the Jackson County Water Conservancy District to construct and install new water control structures identified as the Bostwick Headgate, the Mutual Headgate, the Staples 1. Headgate, the Squibob Headgate and the Richmond Diversion | $ 128,828.00 | $ 190,000.00 | $ 61,172.00 |
| Task 3a - Administration | Contract Administration and management costs -JCWCD | $ 12,883.00 | $ 12,883.00 | 0 |
| | Total Cost Estimate | $ 155,211.00 | $ 216,383.00 | $ 61,172.00 |

| REVISED REVENUES/FUNDING SOURCES | | | |
|---|---|---|---|
| **Description of Funding Source** | ***Original Estimated Revenue Amount*** | ***Revised Estimated Revenue Amount*** | ***Increase (Decrease)*** |
| **NRCS In-Kind Contributions for Staff Project Person and Design/Engineering** | $ 13,500.00 | $ 13,500.00 | 0 |
| **Landowner/Water Rights Owner 10% Matching Funds Contribution** | $ 12,883.00 | $ 19,000.00 | $ 6,117.00 |
| **WSRA Basin Account Funds** | $ 128,828.00 | $ 183,883.00 | $ 55,055.00 |
| Total Funding/Revenue Contribution | $ 155,211.00 | $ 216,383.00 | $ 61,172.00 |

** The Landowner/Water Right Holders shall contribute 10 % of the total costs incurred for construction and installation by contractors (Task 3.)*

** The Water Right Owners shall be responsible for any and all cost over-rides.*



** If the final project costs require less utilization of the WSRA funds than granted, the remaining funds will not be requested and will remain in the North Platte Basin Account.*

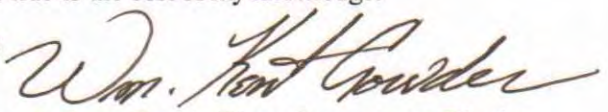
**SCHEDULE**

| Task | Estimated Start Date | Estimated Completion Date |
|---|---|---|
| 1. Need and Feasibility | COMPLETED | |
| 2. Survey and Design | COMPLETED | |
| 3. Construction and Installation | 10/01/2011 | 11/31/2012 |

**PAYMENT**

Payment will be made based on actual expenditures and invoicing by the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 5 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed. All products, data and information developed as a result of this grant must be provided to the 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 help promote the development of a common technical platform.

The above statements are true to the best of my knowledge:

**Signature of Applicant**: 

**Print Applicant's Name**: Jackson County Water Conservancy District

**Project Title**: Structures for Water Control: Headgates and Diversion – Additional Funds Request

**Return this application to**:

Mr. Todd Doherty
Intrastate Water Management and Development Section
COLORADO WATER CONSERVATION BOARD
1580 Logan Street, Suite 200
Denver, CO 80203

To submit applications by Email, send to: todd.doherty@state.co.us

**Attachment 1**
**Reference Information**

The following information is available via the internet. The reference information provides additional detail and background information.

Colorado Water Conservation Board (http://cwcb.state.co.us/)

Loan and Grant policies and information are available at – http://cwcb.state.co.us/Finance/

Interbasin Compact Committee and Basin Roundtables (http://ibcc.state.co.us/)

Interbasin Compact Committee By-laws and Charter (under Helpful Links section) –

http://ibcc.state.co.us/Basins/IBCC/

Legislation

House Bill 05-1177 - Also known as the Water for the 21st Century Act –

http://cwcbweblink.state.co.us/DocView.aspx?id=105662&searchhandle=28318

House Bill 06-1400 – Adopted the Interbasin Compact Committee Charter –

http://cwcbweblink.state.co.us/DocView.aspx?id=21291&searchhandle=12911

Senate Bill 06-179 – Created the Water Supply Reserve Account –

http://cwcbweblink.state.co.us/DocView.aspx?id=21379&searchhandle=12911

Statewide Water Supply Initiative

General Information – http://cwcb.state.co.us/IWMD/

Phase 1 Report –

**Attachment 2**
**Insurance Requirements**

NOTE: The following insurance requirements taken from the standard contract apply to WSRA projects that exceed $25,000 in accordance with the policies of the State Controller's Office. Proof of insurance as stated below is necessary prior to the execution of a contract.

## 13. INSURANCE

Grantee and its Sub-grantees shall obtain and maintain insurance as specified in this section at all times during the term of this Grant: All policies evidencing the insurance coverage required hereunder shall be issued by insurance companies satisfactory to Grantee and the State.

### A. Grantee

**i. Public Entities**

If Grantee is a "public entity" within the meaning of the Colorado Governmental Immunity Act, CRS §24-10-101, et seq., as amended (the "GIA"), then Grantee shall maintain at all times during the term of this Grant such liability insurance, by commercial policy or self-insurance, as is necessary to meet its liabilities under the GIA. Grantee shall show proof of such insurance satisfactory to the State, if requested by the State. Grantee shall require each Grant with Sub-grantees that are public entities, providing Goods or Services hereunder, to include the insurance requirements necessary to meet Sub-grantee's liabilities under the GIA.

**ii. Non-Public Entities**

If Grantee is not a "public entity" within the meaning of the GIA, Grantee shall obtain and maintain during the term of this Grant insurance coverage and policies meeting the same requirements set forth in **§13(B)** with respect to sub-Grantees that are not "public entities".

### B. Sub-Grantees

Grantee shall require each Grant with Sub-grantees, other than those that are public entities, providing Goods or Services in connection with this Grant, to include insurance requirements substantially similar to the following:

**i. Worker's Compensation**

Worker's Compensation Insurance as required by State statute, and Employer's Liability Insurance covering all of Grantee and Sub-grantee employees acting within the course and scope of their employment.

**ii. General Liability**

Commercial General Liability Insurance written on ISO occurrence form CG 00 01 10/93 or equivalent, covering premises operations, fire damage, independent Grantees, products and completed operations, blanket Grantual liability, personal injury, and advertising liability with minimum limits as follows: **(a)**$1,000,000 each occurrence; **(b)** $1,000,000 general aggregate; **(c)** $1,000,000 products and completed operations aggregate; and **(d)** $50,000 any one fire. If any aggregate limit is reduced below $1,000,000 because of claims made or paid, Sub-grantee shall immediately obtain additional insurance to restore the full aggregate limit and furnish to Grantee a certificate or other document satisfactory to Grantee showing compliance with this provision.

**iii. Automobile Liability**

Automobile Liability Insurance covering any auto (including owned, hired and non-owned autos) with a minimum limit of $1,000,000 each accident combined single limit.

**iv. Additional Insured**

Grantee and the State shall be named as additional insured on the Commercial General Liability and Automobile Liability Insurance policies (leases and construction Grants require additional insured coverage for completed operations on endorsements CG 2010 11/85, CG 2037, or equivalent).

**v. Primacy of Coverage**

Coverage required of Grantee and Sub-grantees shall be primary over any insurance or self-insurance program carried by Grantee or the State.

**vi. Cancellation**

The above insurance policies shall include provisions preventing cancellation or non-renewal without at least 45 days prior notice to the Grantee and the State by certified mail.

**vii. Subrogation Waiver**

All insurance policies in any way related to this Grant and secured and maintained by Grantee or its Sub-grantees as required herein shall include clauses stating that each carrier shall waive all rights of recovery, under subrogation or otherwise, against Grantee or the State, its agencies, institutions, organizations, officers, agents, employees, and volunteers.

**C. Certificates**

Grantee and all Sub-grantees shall provide certificates showing insurance coverage required hereunder to the State within seven business days of the Effective Date of this Grant. No later than 15 days prior to the expiration date of any such coverage, Grantee and each Sub-grantee shall deliver to the State or Grantee certificates of insurance evidencing renewals thereof. In addition, upon request by the State at any other time during the term of this Grant or any sub-grant, Grantee and each Sub-grantee shall, within 10 days of such request, supply to the State evidence satisfactory to the State of compliance with the provisions of this **§13**.

## Attachment 3
## Water Supply Reserve Account Standard Contract

NOTE: The following contract is required for WSRA projects that exceed $100,000. (Projects under this amount will normally be funded through a purchase order process.) Applicants are encouraged to review the standard contract to understand the terms and conditions required by the State in the event a WSRA grant is awarded. Significant changes to the standard contract require approval of the State Controller's Office and often prolong the contracting process.

It should also be noted that grant funds to be used for the purchase of real property (e.g. water rights, land, conservation easements, etc.) will require additional review and approval. In such cases applicants should expect the grant contracting process to take approximately 3 to 6 months from the date of CWCB approval.

## Attachment 4
## W-9 Form

NOTE: A completed W-9 form is required for all WSRA projects prior execution of a contract or purchase order. Please submit this form with the completed application.