



COLORADO WATER CONSERVATION BOARD

WATER SUPPLY RESERVE ACCOUNT GRANT APPLICATION FORM



Alluvial Aquifer Accretion/Depletion Analysis Tool

Name of Water Activity/Project

Approving Basin Roundtable

\$200,000

Amount from Statewide Account

\$200,000

Total Amount of Funds Requested

Amount from Basin Account

\$0

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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)

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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.

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

1. Applicant Name(s): Colorado Division of Water Resources
(Colorado Water Conservation Board)

Mailing address: 1313 Sherman, Rm 818
Denver, CO 80203

Taxpayer ID#: 84-0644739 Email address: Mary.Halstead@state.co.us

Phone Numbers: Business: 303-866-3581 #8263
Home:
Fax:

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

Name: Mary Halstead

Position/Title: Chief, DSS/Modeling

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.
- ☐ 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.

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4. Provide a brief description of your organization

Colorado Division of Water Resources (CDWR) is the lead sponsor for this application and is primarily tasked with administering Colorado water rights to maximize the beneficial use of water for the citizens of the state in accordance with the prior appropriation doctrine, decrees of the court and interstate compacts.

Colorado Water Conservation Board (CWCB) is a co-sponsor of this application and is governed by a 15-member Board. The CWCB's responsibilities range from protecting Colorado's streams and lakes to water conservation, flood mitigation, watershed protection, stream restoration, drought planning, water supply planning and water project financing. The CWCB also works to protect the state's water apportionments in collaboration with other western states and federal agencies.

CDWR and CWCB are partners in developing and enhancing Decision Support System tools and models for the major river basins in Colorado. Colorado's Decision Support Systems is a data-centered, water management system funded through CWCB with technical support from both CWCB and DWR staff. The goal of this system is to assist in making informed decisions regarding historic and future use of water.

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

The contracting entity will be the Project Sponsor – Colorado Division of Water Resources.

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.

☒

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.

CDWR has no TABOR issues.

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Part B. - Description of the Water Activity

1. Name of the Water Activity/Project:

Alluvial Aquifer Accretion/Depletion Analysis Tool

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

☐

Nonconsumptive project or activity

☒

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.

The ever increasing demand for water along the Front Range, exacerbated by the drought of 2002, has resulted in the development of a number of augmentation plans relying upon recharge accretions as the primary source of replacement water. An augmentation plan allows structures, such as alluvial wells, to divert water even when the structure's water rights are out-of-priority by providing a replacement supply of water to the in-priority structure impacted by the out-of-priority diversion. Impacts from the diversion on the river are termed "depletions" in that they deplete the amount of water available in the stream to the vested surface water rights. Additions to the stream from recharge are known as "accretions". The objective of the augmentation plan is for the accretion to equal or exceed the out-of-priority depletion.

Currently, the division must rely on accounting from the augmentation plans to determine whether or not a sufficient amount of accretions were provided at the time and location required to prevent the vested water rights from being impacted by the out-of-priority depletion. Such accounting, however, is typically not submitted until at least 30 and sometimes 60 days after the depletion has impacted the river.

This tool provides the water commissioner with the ability to determine whether or not depletions are being adequately replaced by accretions. It will also enable the water commissioner to quickly assess any claims regarding the right to divert "excess" accretions, as some recharge plans have the decreed right to use such accretions. Without such a tool, the division is unable to effectively administer such rights or to assure that vested water rights are not being impacted by the out-of-priority diversions.

This scope outlines full development of the Alluvial Aquifer Accretion/Depletion Analysis Tool (AAADAT) in a server-database environment and a web-based user interface. The fully developed tool will use HydroBase as the primary source of dynamic input data and will store, as necessary, additional information that is not currently maintained in HydroBase. AAADAT, as developed under this scope, will calculate net impacts of off stream diversions only (pumping depletions and recharge accretions). The output from AAADAT will be used by water administrators, in conjunction with known daily on stream activity, to assure that an adequate supply of replacement water has been provided to the vested water rights. It will also enable other water users to independently assess any claims regarding "excess" accretions.

We are applying for statewide funds from the Water Supply Reserve Account and have provided letters of support from several roundtables. We have provided 20% match in the form of in-kind services from the Colorado Division of Water Resources.

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Part C. – 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 water activity is consistent with Section 37-75-102 Colorado Revised Statutes. The project is seeking to increase and improve tracking of out-of-priority depletions and recharge accretions to better enable the State Engineer's Office to enforce the laws of Colorado and facilitate use of water in accordance with decreed water rights.

The current system of allocating water within Colorado shall not be superseded, abrogated, or otherwise impaired by this project. Nothing in this project shall be interpreted to repeal or in any manner amend the existing water rights adjudication system. The General Assembly affirmed the state constitution's recognition of water rights as a private usufructuary property right, and this project 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.

- 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.*

We will attain a support letter from the South Platte Roundtable. This letter will meet all of the requirements as outlined and be submitted as amendments to 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.

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- 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 WSR 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.*

Described in (b)

- 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. 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)*

CDWR will provide 20% of the total project cost through in-kind match. The entire project will cost \$250,467 and CDWR's in kind match will be \$50,467.

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.

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

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).

In addition to facilitating the administration of augmentation plans to make sure the vested water rights are not impacted by the associated out-of-priority depletions, this tool will enable the plans to know about any excess accretions in time to make the water available to Colorado interests. Absent such a tool, accretions that exceed the depletion caused by the out-of-priority diversion will simply leave the state to the benefit of downstream states. We will obtain a letter from the South Platte roundtable documenting their support.

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.

This project has been discussed with the Ducks Unlimited, Natural Resource Conservation Service, Lower South Platte Water Conservancy District, South Platte Water Cooperative, and Colorado State University. Diverse stakeholders recognize that exchange and retiming of excess accretions is needed to assist with the water gap and many groups are coming together to support development of a system that will facilitate daily exchanges of excess accretions.

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 project definitely helps implement projects and processes identified as helping meet Colorado's future water needs. SWSI recognized that recharge projects, capable of providing augmentation water to the river, would be a primary technology to meet the gap along the South Platte. As such, many projects are underway to develop recharge facilities including several by Ducks Unlimited and partners, water conservancy districts, and private landowners including the CWCB funded FMRICO/Groves project. Recent focus on alternatives to agricultural dry-up studies have lead to the investigation of Water Cooperatives wishing to exchange more than 15,000 to 30,000 acre-feet of water between augmentation plans. These types of exchanges will require a tool that can allow the division to track pumping depletions and recharge accretions daily and assure all exchanges are completed within the bounds of decrees.

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).

Funding from this account will greatly reduce the uncertainty of implementing several water activities. Although several elements of successful exchanges are being studied through funding from the CWCB at this time, the tool to assure success has yet to be developed. An accurate daily tracking system for pumping depletions and recharge accretions is needed to allow the participants and the division to fully implement water exchanges in several basins, including the lower South Platte.

e. The applicant must demonstrate its ability to implement the proposed activity.

CDWR routinely manages such complex projects.

f. The applicant is providing matching funds and the amount of matching funds or is obtaining partial funding from other sources and the amount and source of such other funds or is providing demonstrable in-kind contributions.

Colorado Division of Water Resources (In-kind) - \$50,467

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

g. The water activity helps sustain agriculture, and open space, or meets environmental or recreational needs.

Development of the tool will assist in addressing issues of Statewide values and maximize benefits of water uses. Currently, water exchanges occur in localized areas that have the capability to perform exchanges through augmentation decrees. Many times the exchanges occur from one agricultural use to another agricultural use. Although many augmentation decrees permit retiming of excess accretions, many operators do not currently take advantage of the opportunity as the information regarding daily excess accretions to retime is not available. The result is that much of the excess accretions escape the state unused. A daily pumping depletions and recharge accretions tracking tool will greatly increase efficiency of tracking, allowing for daily administration of excess accretions and maximizing water use. If operators can retime excess accretions and put them to use when demand is high or market the water to a broader audience of water demands, interest in this source of water will increase and less water will be lost out of the state.

h. 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.

The South Platte Compact requires the curtailment of the Colorado water rights junior to June 14, 1897 located downstream of the river's intersection with the western boundary line of Washington County whenever the flow at the state line is less than 120 cfs from April 1 through October 15. The AAADAT will enable the state to demonstrate that depletions associated with such structures have been replaced.

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i. The water activity assists in the recovery of threatened and endangered wildlife species or Colorado State species of concern.

The AAADAT will certainly enable organizations, such as Duck Unlimited and others, to develop such replacement programs.

j. The water activity provides a high level of benefit to Colorado in relationship to the amount of funds requested.

The AAADAT will provide a missing piece of the puzzle to better manage water throughout the state, specifically the lower South Platte River. As we develop water management strategies that maximize beneficial use and stretches water to the limits, we will need to understand use and availability on a daily basis to make the best water decisions for all stakeholders.

k. The water activity is complimentary to or assists in the implementation of other CWCB programs.

Several projects have been launched by the CWCB through the WSRA and the alternatives to agricultural dry-up programs, along with many others. Water users have developed systems of recharge facilities that divert more water than multi-million dollar reservoir projects. Now, these systems need an accurate management tool to maximize the beneficial use of retimed water to meet the water gap. Water cooperatives and other programs funded by the CWCB will need to track pumping depletions and recharge accretions daily for effective operations of their programs. This tool is the logical next step to increase the success of other water programs.

Part D. – 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 the name/location of water bodies affected by the water activity.

The water body to be affected by this water activity is the South Platte River Basin including the mainstem of the South Platte and its tributaries within the State of Colorado. Further, this tool will be designed so that it can be implemented in other river basins within the State of Colorado. Numerous water rights may be affected directly or indirectly by the ability of this water activity to provide daily information related to pumping depletion and recharge accretion activities. It is anticipated that the daily administration of these activities will increase beneficial use of water within the State of Colorado.

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

A prototype tool was developed by Leonard Rice Engineers, Inc. for the Colorado Division of Water Resources in the summer of 2010. The Excess Accretions Tool was developed as a prototype to 1) demonstrate the ability to create such a tool and 2) to provide information to water users and water administrators about the impacts that a fully implemented tool would have on their ability to plan and administer augmentation plan operations on a daily basis. The Excess Accretions Tool is viewed as a success on both accounts and was well received by both water users and water administrators. It is anticipated that a basin wide implementation of this tool will provide high value to both water users and water administrators. At this time we are seeking additional funds to enhance and implement this tool.

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.

Please provide a detailed statement of work using the following template. Additional sections or modifications may be included as necessary. Please define all acronyms. If a grant is awarded an independent statement of work document will be required with correct page numbers.