COLORADO WATER CONSERVATION BOARD

ALTERNATIVE AGRICULTURAL WATER TRANSFER METHODS COMPETITIVE GRANT PROGRAM

GRANT APPLICATION FORM

Poudre Basin Water Sharing Working Group Efforts Leading to Agreements South Platte Basin

Program/Project Name **River Basin Name**

$86,940

Amount of Funds Requested

$10,000

Amount of Matching Funds

Instructions: This application form must be submitted in electronic format (Microsoft Word or Original PDF). The application can be emailed or a disc can be mailed to the address at the end of the application form. The Alternative Agricultural Water Transfer Methods Competitive Grant Program, Criteria and Guidelines can be found at http://cwcb.state.co.us/LoansGrants/alternative-agricultural-water-transfer-methods-grants/Pages/main.aspx. **The criteria and guidelines must be reviewed and followed when completing this application**. You may attach additional sheets as necessary to fully answer any question, or to provide additional information that you feel would be helpful in evaluating this application. Include with your application a cover letter summarizing your request for a grant. If you have difficulty with any part of the application, contact Todd Doherty of the Water Supply Planning Section (Colorado Water Conservation Board) for assistance, at (303) 866-3441 x3210 or email at todd.doherty@state.co.us.

Generally, the applicant is also the prospective owner and sponsor of the proposed program/project. If this is not the case, contact Todd before completing this application.

Alternative Agricultural Water Transfer Methods – Grant Application Form
October 2010

Part A. - Description of the Applicant(s) (Program/Project Sponsor);

1. Applicant Name(s): Colorado State University
Colorado Water Institute

Mailing address: Colorado State University
Colorado Water Institute
2002 Campus Delivery
Fort Collins CO 80523-1033

Taxpayer ID#: 846000545 Email address: reagan.waskom@colostate.edu

Phone Numbers: Business: 970-491-6308
Home: 970-491-1636
Fax:

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

Name: Linda Monum

Position/Title Senior Research Administrator, Office of Sponsored Programs

3. If the Contracting Entity is different than the Applicant, please describe the Contracting Entity here.

Provide a brief description of your organization. The applicant may be a public or private entity. Given the diverse range of potential applicants, not all of the following information may be relevant. Where applicable and relevant the description should include the following:

a) Type of organization, official name, the year formed, and the statutes under which the entity was formed, a contact person and that person's position or title, address and phone number. For private entities, a copy of the Articles of Incorporation and By-laws should be appended to the application.

The Poudre Basin Water Sharing Working Group (PBWSWG or "Working Group" herein) is an informal association of individuals representing organizations with interests in sharing water between agricultural and municipal users in the Poudre Basin. The Working Group had their first meeting on February 14th, 2013 and a second on March 14th. The Working Group was formed after the Larimer County Agricultural Advisory Board (LCAAB) initiated discussions with multiple entities about water sharing and subsequent meetings between the LCAAB, City of Fort Collins Water Board and Water Utility in 2011 and 2012. Fort Collins has been direct to explore water sharing with agriculture as a part of their updated Water Supply and Demand Management Policy. The issue of water sharing requires the participation and discussion among a group of Poudre Basin water users.

The Working Group is currently made up of the following individuals and entities and represents the principal water providers, irrigation companies and producers. The Colorado Water Institute (CWI) at Colorado State University (CSU) has agreed to facilitate the working group and has done so on a pro-bono basis since its inception in November of 2012, but is now seeking funding for more intensive efforts. The CWI facilitator and principal contact for the group will be MaryLou Smith of the CWI at CSU.

Name	Association
Steve Smith	Manager, North Poudre Irrigation Co. (NPIC)
Dennis Harmon	Manager, Water Supply and Storage Co. (WSSC)
Bill Johnston	Superintendent, Larimer & Weld Irrigation Co. (L&W) & Windsor Reservoir and Canal Co.
Dale Trowbridge	Manager, New Cache la Poudre Irrigation Co. (New Cache)
Donnie Dustin	Water Resources Manager, City of Fort Collins Water Utility
Susan Smolnik	Water Resources Engineer, City of Fort Collins Water Utility
Doug Bigge	Manager, West Fort Collins Water District (WFCWD)
Mike DiTullio	Manager, Fort Collins-Loveland Water District (FCLWD)
Mike Sheid	Manager, East Larimer County Water District (ELCO)
Don Posselt	Manager, North Weld County Water District (NWCWD)
Shawn Hoff	Water Resources Manager, Tri Districts (aka FCLWD, ELCO, NWCWD)
Kim Frick	Water Resources Staff, Tri Districts (aka FCLWD, ELCO, NWCWD)
Harold Evans	City of Greeley Water and Sewer Board
Jim Hall	Water Resources Manager, City of Greeley Water and Sewer
Jon Monson	Director, City of Greeley Water and Sewer
Richard Seaworth	Larimer County Agricultural Advisory Bd. Seaworth Farms

Troy Seaworth	Seaworth Farms
Michael Matsuda	North Poudre Irrigation Company Board Member, Matsuda Farms
Christopher Schnorr	Schnorr Farms, Inc.
George Wallace	Larimer County Agriculture Advisory Board, Soldias Farms

b) For waters suppliers, information regarding the number of customers, taps, service area, and current water usage, and future growth plans, water related facilities owned or used, funding/revenue sources (existing service charges, tap fees, share assessments, etc.), the number of members or shareholders and shares of stock outstanding or a description of other means of ownership.

The municipal water providers include the City of Fort Collins, City of Greeley, West Fort Collins Water District and the Tri-Districts, which include ELCO, FCLWD and NWCWD. The Tri-Districts own one water treatment plant and water rights on the Poudre River, as well as Colorado-Big Thompson (CBT) units that are delivered through Horsetooth Reservoir. The City of Fort Collins owns one water treatment plant (which treats the West Fort Collins Water District's CBT water for their use) and owns water rights on the Poudre River, North Platte River (trans-mountain water delivered via the Michigan Ditch to Joe Wright Reservoir), and the Colorado River (trans-mountain CBT water delivered through Horsetooth Reservoir). The City of Greeley owns two water treatment plants and water rights in four river basins: The Poudre, Big Thompson, Colorado River (i.e. CBT and Windy Gap delivered through Horsetooth and Carter Reservoirs) and Laramie River (delivered to Chambers Lake). Each water provider collects revenue through a series of fees, such as plant investment fees, retail sale of potable water and through annual water rentals. All of these water providers own shares of the North Poudre Irrigation Company shares which may be a key factor in agreements developed by this group because each NPIC share has associated Colorado Big Thompson (trans- basin) water which provides some flexibility for this working group. Additionally, the basin has a number of adjudicated exchanges which are more flexible than found in other parts of the State.

Water Provider Information

	Fort Collins	Greeley	ELCO	FCLWD	NWCWD	WFCWD
No of Taps	33,800	26,200	5,487	15,000	3,500	980
Service Area	35 sq. mi.	44 sq. mi.	49 sq. mi.	56 sq. mi.	291 sq. mi.	25 sq.mi.
Current Water Use (acre-feet):	24,500	25,000	4,200	10,500	8,500	500
Current Population	130,000	125,000**	18,000	42,000	10,000	4,000
Future population in 2050	165,000	240,000	37,000	81,200	36,400	5,600
Fees for Single Family Residential*	$8,113	$12,435	$18,077	$20,277	$15,000	$25,000

*These include plant investment fees and raw water requirements for a 7000 sq. ft. lot with a ¾-inch tap.
**Greeley provides treatment capacity for the towns of Milliken, Windsor and City of Evans.

c) For other entities, background, organizational size, staffing and budget, and funding related to water that is relevant in determining whether the applicant has the ability to accomplish the program/project for which funding is sought.

None.

d) A brief history of the Applicant(s).

See a) above. Also, it is historically important to note that in the 80's and 90's when development pressure was highest in the Poudre Basin and farm commodity prices low, considerable water was transferred from agriculture to water providers – most of whom are represented in our group. Since that time, irrigators – especially those in Larimer County - have counted heavily on having access to the rental of the agricultural water owned by domestic providers; as well as any surplus multiple-use water not utilized in a given year. All the participants own some North Poudre Irrigation Co. shares, and both Greeley and Fort Collins sometime have surplus multiple-use water that is rented as well. In a sense, the water providers serve as de-facto water banks for agriculture as long as drought year needs can be met and agricultural decrees are not changed - although with regard to North Poudre Irrigation Co., no formal agreements are currently in place that institutionalize that practice. Such agreements may be constrained by the lack of storage for some municipal providers, such as Fort Collins and Tri-Districts.

Prior to the formation of the PBWSWG, in order to set the stage for the formation of the Working Group and to build public support for the process, in 2011 & 2012 the LCAAB developed presentations on the multiple benefits and values provided by irrigated agriculture and how the viability of the local irrigated landscape is slowly being undermined by ag-to-urban and out-of-basin transfers. Presentations were made to a variety of community and organizational groups (The Poudre Runs Through It Forum, Big Thompson Watershed Forum, water boards etc.). The benefits and values of local agriculture described in these presentations included:

- the increased public interest in local food production and food security
- the resulting increase in direct sales
- the full supply chain economic contribution of irrigated ag
- the reduced carbon footprint provided by an expanded local food supply
- ground water recharge
- flood surge control provided by the ag water infrastructure
- extended recreational flows from summer ag releases
- wetlands and other wildlife habitat provided by the irrigated landscape
- low-cost open space and community separators
- protection of the agricultural knowledge base and cultural heritage
- the potential for water sharing between ag and urban users

Water sharing was then presented as one key component for maintaining the irrigated landscape and the values it provides, as well as being a potentially cost effective way to provide drought firming and some additional base supply. This was an attempt to do what the Colorado Agricultural Water Alliance (CAWA) has recently suggested – to "change the conversation" and the way we think about the agricultural use of water when we talk about water supply. They suggest reminding people that food production and processing requires a lot of water and that most of that water finds its way back to the urban resident via food, fiber, and the multiple benefits and values described above.

These presentations and forums, as well as other water sharing efforts in the State including CWCB sponsored projects, have helped to establish a growing base of support for the water sharing concept and for the change in policies that now direct the exploration of water sharing in the Poudre Basin – hence the formation of this working group.

It also is recognized that structural water supply projects such as new storage and additional trans-basin diversions are difficult to implement and the potential to firm municipal water supply via operational agreements involving agriculture can provide a partial solution for annual variability in supply and long-term supplies for planning. These agreements may be less effective when implemented by a subset of water users and consequently the PBWSWG, by working cooperatively, has the potential to stimulate a wider discussion and understanding about water sharing, and firm up regional supplies to protect more irrigated agriculture and firm up regional supplies for more providers.

e) Please include any relevant Tabor issues relating to the funding request that may affect the Contracting Entity.

The grant application does not include any proposed water conservation district, mill levy or tax at this time.

Part B. - Description of the Alternative Water Transfer Program/Project

1. Purpose of the Program/Project

Please provide a summary of the proposed program/project, including a statement of what the program/project is intended to accomplish, the need for the program/project, the problems and

opportunities to be addressed, the expectations of the applicant(s), and why the program/project is important to the applicant(s). The summary must include a description of the technical, institutional (i.e., how the program/project will be organized and operated), and legal elements that will and/or have been addressed by the applicant and proposed program/project. The summary should also discuss relevant project history, if applicable, and any other relevant issues.

At the March meeting (our second meeting), PBWSWG set the following objective that would be facilitated by the CWCB ATM grant:

Convene domestic water providers and ag water organizations/stakeholders in the Poudre Basin as a working group to:

1. Provide stability and security for water providers.
    a. Drought year firming and recovery
    b. Limited increases in base supply
2. Provide security for the ag water supply and access to that supply in normal years.
3. Lead to the reduction of "buy and dry" and out-of-basin transfers.
4. Lead to regional cooperation and reduction of conflict.

Tasks:

1. Develop a database that describes the water portfolios and demographics of the participating water providers and irrigation organizations/shareholders, the irrigated lands protected by conservation easements and other data needed to inform the description and feasibility of particular water sharing mechanisms.

2. Investigate the most promising site-specific water sharing mechanisms that would be appropriate (economically and otherwise) for the Poudre Basin and which might serve some or all of the participating entities. Develop a written description that can be used to find out if individuals are interested.

3. Conduct a survey to determine the perceptions of water shareholders regarding different water sharing techniques identified by the working group, and the likelihood of those irrigators or entities participating in future water sharing agreements.

4. Based on the above, refine the descriptions of the most appropriate water sharing mechanisms.

5. Draft prototype agreements between water provider(s) and ag water organization(s)/shareholders.

6. Identify interested parties and encourage them in the execution of one or more agreements and develop a process to monitor and evaluate the agreement(s) during their pilot period.

Our focus will be primarily on drought year firming for water providers via innovative interruptible water supply agreements (swapping of multiple use water for agricultural water; the leasing of water owned by farmers; agreements in advance to forgo rental water and meet dry-up requirements etc.). These types of agreements can make a significant amount of water available for drought firming and they involve both owned and rented water. In return for agreeing to provide drought protection,

irrigators seek rental water availability during normal water years, and fewer attempts to change agricultural decrees held by domestic providers. We also expect that we may be able to develop an equitable pricing strategy for transfers not agreed upon previously.

Other water sharing mechanisms that we hope to analyze and adapt to fit the situations found in the Poudre Basin include optimum shared use of infrastructure and modification of water management and delivery to maximize supply and reduce operational costs. This might include the identification and financing of infrastructure improvements such as recharge basins or the dredging of existing reservoirs or other ways of developing water supplies that could be shared. We also would like to explore water banking and potential new applications of that concept which has traditionally been thought of as requiring a new tax and therefore had less support. Finally, we will discuss options to the practice of asking developers to purchase water shares and turn them over to the water provider. A "cash in lieu" option, for example, might be applied to further water sharing mechanisms. Some in the group have said they would like to explore storage fees that might be applied to dredging or other infrastructure projects.

Currently agricultural producers and other water owners in the basin are being aggressively approached by outside interests who further promote the "buy and dry" approach - some of whom are interested in out-of-basin transfers. It is our intention to begin the analysis and development of water sharing within the basin and to publicize what we are doing in order to let those owning water know that there may soon be new economic options that do not require "buy and dry" or selling to outside interests.

We envision a first phase that would address tasks 1-4 above: the creation and analysis of a database; the development of descriptions of appropriate water sharing mechanisms; a survey where water users/owners would evaluate different water sharing mechanisms, be asked about and the likelihood of their participating in specific water sharing agreements, the actual or potential use of conservation easements, and their perceptions about the potential pricing of water transfers, storage fees and other aspects of financing related to water sharing. This will be followed by a second phase which focuses on tasks 5-6 above which concern the development of prototype agreements and the initial implementation of one or more agreements and evaluation strategies for their pilot period(s).

Previous Studies

To the maximum extent possible, the results of any previous studies and investigation should be utilized and incorporated into the proposed program/project. The application for funding should include a brief summary of the results of previous studies and how they will be utilized.

Other ATM projects like the Super Ditch and Colorado Corn Growers etc. (CWCB 2012) focus on long-term fallowing or the reduction of water used by agriculture in order to allow the water saved to be sold or leased to water providers for their base supply. In contrast, this project will focus more on maintaining our existing productive capabilities in normal water years in return for providing drought year firming for urban users. We will first seek to work with individual irrigators rather than an entire ditch company; however, by describing options for agreements we hope to define templates that can be used in a similar fashion by multiple organizations in the basin.

The evaluations of previous ATM projects, most of which were funded in part by CWCB or the Western Governors, have identified barriers to the success of ATM mechanisms (CWCB 2012; CWI

2010). For the barriers identified below we include brief descriptions of how each barrier may be addressed to some degree by our proposal and the work we plan to undertake.

a) Transaction costs related to water court processes, engineering and legal fees: One of the water sharing mechanisms we will attempt to formalize involves water swaps (see page 13) which do not require a change case or the calculation of consumptive use (CU) and return flows. For other interruptible supply agreements involving the leasing of agricultural g water we hope to build on the findings of the Colorado Corn Growers Flex CU project and their calculation of CU for the Lake Canal. We will also explore a recharge accounting plan, in which municipalities could use the variety of substitute supplies to make replacements until the obligations are paid in full.

   We are also hopeful that pending legislation (HB12-48) will streamline the approval process for the pilot projects we will develop. We will work with Representative Fischer (D Larimer County) who has co- authored this bill to provide information that might help with its passage. Finally, we are including some legal fees in this proposal for the development of prototype agreements of templates for ATM agreements which may also cut costs in the future in the Poudre Basin and elsewhere.

b) The reluctance of municipalities and water districts to make expenditures for water supplies that are not reliable and long term in nature: We will focus primarily on long term drought firming and recovery mechanisms (which provide security in their own right) for water suppliers to develop via pilot agreements. This may have the effect of reducing both the expenditures for firming water of the type that have occurred in past drought years and the overall quantity of the firm supplies deemed necessary by providers – especially those with finite growth management areas and an adequate base supply.

State legislation has also been introduced that would allow multiple 10 year periods for interruptible water supplies to be utilized (HB 11-30). It has passed in the House by a good margin with bi-partisan support and is now awaiting action by the Senate. If passed, which is likely, this statute would extend the security of interruptible supply transfers to 30 years (personal communication from Representative Fischer).

The Inter Basin Compact Committee (IBCC) ATM subcommittee recommended the exploration of coupling conservation easements with interruptible supply agreements as another way of addressing the certainty issue. Larimer County has a good number of conservation easements on irrigated farm and ranch land, and if the County open space sales tax is extended, there may be an opportunity for both Larimer County to utilize the tax to provide incentives for more such easements which would protect the land and water. We hope to examine this possibility further, and as we compile our database and do a survey of irrigators, we will tally current easements and include items regarding the likelihood that producers would consider use of conservation easements on their farms or ranches if they knew that it would ensure the security of their access to rental water and the income from interruptible supply agreements they might enter into.

Aside from the obstacles identified, other recommendations have emerged from the evaluation of earlier projects. The CWCB ATM subcommittee has suggested that someone pursue the transfer of a portion of certain water rights. This is one of the things mentioned earlier and described on page 13 that we may be able to institutionalize via longer term agreements. This year due to the High Park Fire and

the difficulty in treating Poudre River water with high sediment and carbon loading, the City of Fort Collins has offered to trade their ag portion of NPIC water rights with other NPIC shareholders for their multiple use (or CBT) portion of NPIC water rights which is CBT water stored in Horsetooth reservoir and therefore less affected by the fire. This offer has already been met with considerable interest from shareholders offering to make such a swap. This type of trade could also be used for both drought firming and recovery (and to a limited degree for increasing base supply in the future). Longer term agreements could be formalized for this type of transfer that would reduce administrative burden and provide drought year security to a greater degree than it currently has been able to do. This is one of the first mechanisms we will explore in detail.

2. Study Area/Service Area Description

   a) A narrative description of the study area/service area including: the county, the location of towns or cities, topography, and locations of major surface and ground water features.
   b) An area map showing each of the items above, as well as the locations of existing facilities, proposed project facilities and boundaries of lands involved in the proposed program/project.
   c) Information regarding the irrigated lands that are involved in the program/project. This **must** include a tabulation of total irrigated acreage, description of cropping types, crop yields, and total average annual water diversions for existing agricultural lands.
   d) Information regarding the location of the new water use(s) that will be served by transferred water including the estimated number of users/taps and/or uses served.
   e) Socio-economic characteristics of the area such as population, employment and land use

Study Area: See descriptions and maps provided in Part A of this application for service areas of the participants. The study area is the Poudre Basin from its mountain headwaters, tributaries and plains farmlands in Eastern Larimer and North Western Weld Counties that are irrigated by waters in the Basin and which lie near the Poudre's confluence with the South Platte River. It also includes trans-mountain diversions from the Colorado and Laramie Rivers and several smaller streams. Communities in the study area include Fort Collins, Wellington, Timnath, Windsor, Ault, Eaton and Greely along with interspersed exurban development (Figure 2).

Area Map: See Figure 3 for an illustration of the Water Providers service areas and existing facilities, as well as the irrigated areas for each ditch company along with Poudre Basin hydrography.

Irrigated Lands: The table below has specific ditch company information. The irrigation companies under the Larimer and Weld system consist of the reservoir company (aka Terry Lake), Windsor Reservoir Canal Company and some Little Cache shares.

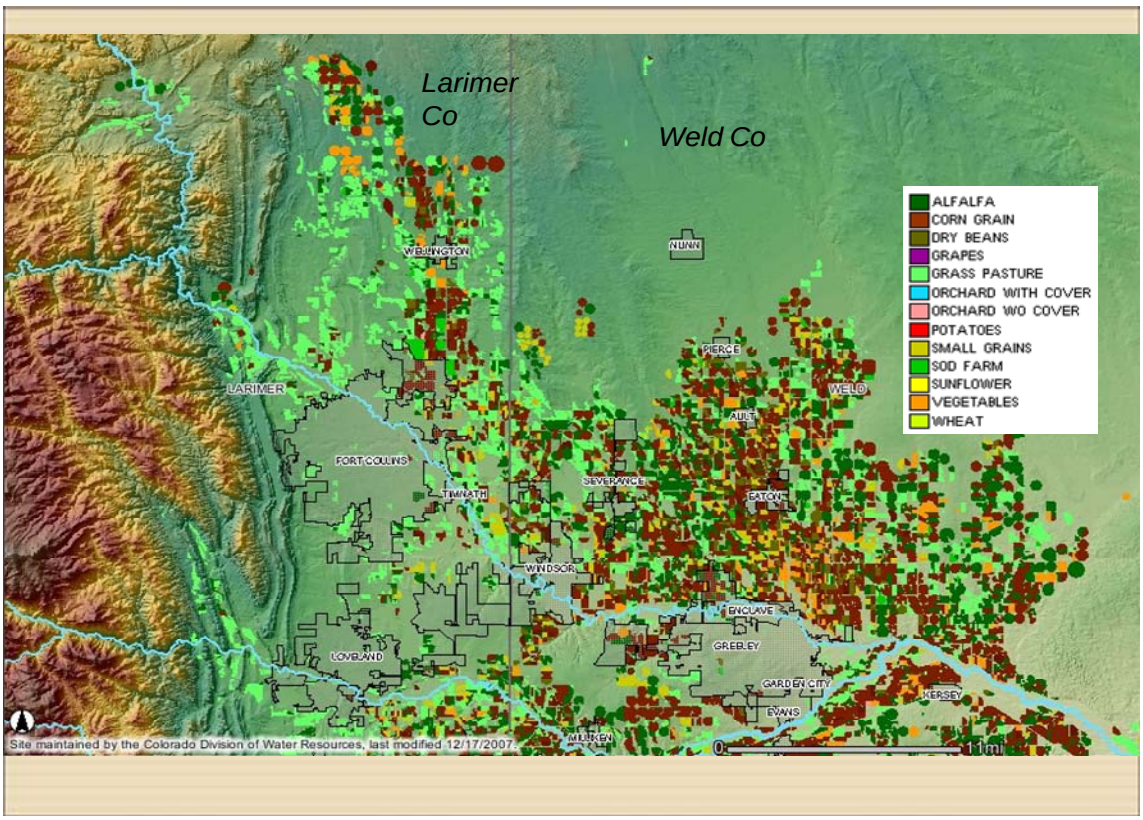
	L&W System*	New Cache Irrigating Co. **	North Poudre Irrigation Co	Water Supply And Storage
No. of Irrigated Acres	55,000	32,000	24,000	40,000
Annual Average Diversion (acre-feet)	60,000	38,000	55,000	55,000
No. of Shareholders		350	600	160
Share Assessments		$130	$120	$2,800

*L&W System include the following three companies:
L&W Irrigation Co. 375 shareholders and $350/sh assessments
L&W Reservoir co. 138 shareholders and $50/sh assessments
WRCC Inc. 258 shareholders and $550/sh assessments
**New Cache also includes the Cache la Poudre Reservoir Company that has an average diversion of 3 acre-feet per share and the assessments are $25/share.

Cropping Types: Irrigated agriculture in the study area produces a wide variety of crops including corn, sugar beets, dry beans, alfalfa, grass hay, silage, barley, wheat; an increasing array of onions, potatoes, squash, carrots and other especially cool season vegetables; and other specialty and high value crops. There are dairies, feedlots, packing plants, breweries, orchard, vineyards, sod farms and nursery stock for landscaping. There are also 17 + community supported agricultural operations near Fort Collins alone, as well as an increase in grass-fed beef producers. Although much production goes to national markets, a growing number local and direct marketing opportunities have been created by farmers markets in every community – some now operating year round. There are also multiple organizations promoting the "be local" & "sustainable foodshed" concepts while assisting with the production and marketing of local and value added agricultural projects.

New Uses: The temporary transfers of water will be drought year transfers from the agricultural producers to the municipalities listed under 4b; as well as the return of water to producers via a more secure supply of rental (leased) water to producers who have entered into agreements with providers.

Socio-economic characteristics: 2010 Census data shows Larimer County to have a population of almost 300,000, growing 19% from 2000 to 2010. Weld County has over 252,000 people with a growth rate of 40%. There are over 150,000 acres of irrigated farmland in the study area. The following figure shows the crop distribution across the two counties. Major employment in Northern Colorado includes: agriculture, beef production, cheese production, dairies, energy industry, technology, healthcare, universities, IT companies, small business and State and Federal Government facilities. The value of agriculture in Weld County is over $1.5 billion and 30% of the jobs in the county are related agriculture. The City of Fort Collins has a strong manufacturing base with companies such as Hewlett Packard, WaterPik, Woodward Governor, In-Situ and Anheuser-Busch. A variety of high tech companies are located here because of the resources Colorado State University provides with their research facilities.



Regarding land use in the study area, although there has been considerable growth pressure prior to the recession and could be again, in the Larimer County Master Plan most new rural development is clustered with protection for the majority of any parcel that is developed which means that there will be a place for agriculture for the foreseeable future. Fort Collins has an urban growth area and an intergovernmental agreement with Larimer County which establishes a build-out scenario. Considerable land is being protected by the open space tax incentives and purchases. Although considerable land can be protected, the Achilles heel for irrigated agriculture is largely related to water transfers.

Weld County has fewer planning or land use regulations or incentives for limiting sprawl or protecting irrigated agriculture nor do they have an open space tax for purchasing easements (although some producers have conservation easements. The strong agricultural economy in Weld County, which has many high value crops along with a significant number of agricultural dependent businesses (i.e. Leprino, JBS, vegetable packers, milk processing, etc.), is currently buffering the loss of irrigated land and water to some degree. In addition, the inevitable dry-up of half the Water Supply and Storage has not yet occurred because the City of Thornton has not yet built the pipeline necessary to take this water south. Unlike Larimer County, farmers are still the majority shareholders of the irrigation companies that serve the Western portion of Weld County that is in the Poudre Basins study area. Water sharing agreements can help to maintain this robust economy and provide benefits to both producers and water providers – particularly during drought years.

3. Description of the Alternative Water Transfer Method

Please describe the type(s) of water transfers that will be examined/utilized (i.e., conceived transfer methods include, but are not limited to: 1) interruptible water supply agreements; 2) long-term agricultural land fallowing; 3) water banks; 4) reduced consumptive use through efficiency or cropping changes while maintaining historic return flows; and 5) purchase by end users with leaseback under defined conditions). In addition, please describe how the transferable consumptive use will be calculated and quantified, and how return flow patterns will be addressed/maintained.

We plan to investigate temporary transfers of water that can include: interruptible water supply agreements, temporary substitute water supply plans, water leasing and swapping, etc. Farmers may use fallowing, deficit irrigation or cropping changes to provide water for drought firming in order to free up the water they own for drought firming and recovery. The unique aspects of the Poudre Basin, including the flexibility of the NPIC and CBT systems, provide options for regional water sharing. Where required, the consumptive use will be calculated on a farm-by-farm basis using historical crop and water supply information. Return flows can either be replaced on or near the farm through recharge basins or by a water provider that has multiple replacement sources to adequately provide replacement as long as the obligation is satisfied. Developing the site-specific details for prototype agreements is part of the work undertaken.

4. Program/Project Eligibility

Please describe how the proposed program/project meets each of the following eligibility requirements (please see Criteria and Guidelines for additional information regarding the alternative water transfer methods/strategies that qualify for funding). Note: If these requirements are addressed in other parts of the application you may simply reference the applicable section(s).

a) A description of how, if implemented, the proposed program/project will protect property and water rights.

All transactions will be with willing cooperators on a voluntary basis.

b) Identified group(s) of agricultural users that are or may be willing to transfer a portion of their water and identified entity(s), group(s) or area(s) where the transferred water could or would be put to the new use and a description of the new use.

It is likely that users will belong to one of the participating irrigation companies and that they will have been identified by the survey of agricultural users that is part of our plan of work.

c) The program/project must at a minimum conceptually describe the technical, institutional, and legal elements of the water transfer. Grant monies may be used to address one or more of these elements. If grant monies are not requested for all three elements, the grant applicant must describe how the applicant has or intends to address the elements, which are not included in the grant request, through other efforts.

The following is a description of three types of water sharing that we hope to adapt to all or

portions of the study area that was developed by our core group members, but should be considered a work in progress:

SOME OF THE WATER SHARING MECHANISMS THAT WILL BE CONSIDERED AND ADAPTED FOR USE IN PORTIONS OF THE BASIN BY THE WORKING GROUP

For the North Poudre Irrigation Co. shares that farmers and water providers own, these shares have a combination of multiple use and agricultural decrees, such that they can be swapped or shared in ways that enhance the value of both types of water. In the Poudre Basin the most common multiple use decrees have been created by the CBT Project. Drought year firming can be realized by swapping the multiple- use and agricultural water portions of the shares owned. Long term agreements of this type can yield considerable supply for drought firming and recovery, and in some cases where the parties are willing, for base supply during normal years

Example – water swapping:
10 unites of CBT at a 60% quota will yield 6 acre feet that the farmer can use on his farm or swap. An M&I user may have agricultural water that could provide the irrigator with 10 acre feet in return. If CBT or other foreign water is involved, State approval is not required and return flows are not an issue. The water provider adds 6 acre feet to their firm yield and the farmer receives 4 more acre feet of water than the CBT water he swapped would have yielded. Those agreeing to water swaps during a drought might also be guaranteed access to rental water during normal years. Again, some may even wish to consider annual swaps of multiple use and agricultural water – drought or no (something we can test when we survey shareholders).

For cases where farmers typically rent water owned by a water provider as part of water sharing agreement they could agree to forgo that rental water in drought years and provide dry-up and return flow recharge so that the water provider could do a short term change of use on the agriculture portion of the water rented. This short term change of use could involve a substitute water supply plan or interruptible water supply agreement. In other words, this allows the water provider to access this water in the drought years under the provisions of CRS 37-92-309 (3 years in 10 rule). In return would have access to that water in the non-drought years. This arrangement would provide security that the farmer would be getting the rental water for 7 out of 10 years.

Example - interruptible supply where rental water is foregone and dry-up requirements met:
Let's say that in a normal year a domestic provider that has agricultural decrees and rents 20 acre feet of that water to a farmer for $40 per acre foot or $800 per year. In drought years that same portion of the domestic provider's ag water may only yield 10 acre feet. Assuming an historic consumptive use of 80% on the land owned by the farmer who normally rents the 20 shares, and assuming the farmer has a history of using 2 acre feet per acre, he could dry up 5 acres so that the water provider could use ag water (rented in normal years) for domestic consumption under the provisions of CRS 37-92-309 (3 years in 10 rule). The M&I user would need to deliver 2 acre feet to the farmer who will put the water into an infiltration basin on the farm to satisfy historic return flow and prevent injury to other downstream water

rights. The farmer who dries up 5 acres is compensated for planting a cover crop and developing and managing the recharge basin. Importantly, the farmer receives a guarantee of rental water during non-drought years. The key here is to formalize agreements in advance to forego rental water and help meet dry-up requirements which will enable both parties to plan and avoid conflict.

The more common case being tested in other ATM projects is where a producer owns water and can free that water up to lease to a water provider. We will explore how this type of agreement can used for drought year firming and recovery.

Example- interruptible supply where owned water is leased to a water provider via longer term interruptible supply agreements:
In this situation, the farmer agrees ahead of time to lease water to a provider in a drought year or for drought recovery. They can do this by fallowing some land, using deficit irrigation or by planting crops that use less water. For this type of an interruptible water supply agreement to be used under the CRS 37-92-309 statute, it require the calculation of historic consumptive use and return flows, as well as administrative approval from the State. We hope to develop a prototype contract using a basin pricing method that is more stable and reasonable than has been the case with the competitive pricing utilized during past drought periods. In addition, if the producer agreeing to lease owned water also rents water from the provider, part of the agreement might be a guaranteed access to rental water during normal years for the duration of the contract.

The alternatives to longer term swapping or interruptible supply for the water provider would be **a**) to go to water court and change some the ag decrees that they own, which will cost them legal fees, plus the court could take some percent of the decrees' yield to satisfy injury claims from downstream users or **b**) they could end up paying up to $480/af for one year's increased supply as was the case in 2002 highly competitive open market where participation was not known until the last hour. Swapping or sharing via longer term interruptible supply agreements both increases the value of the ag decree to the water provider, and it gives the farmer a dependable rental water source during normal years, as well as some income from the leasing of any owned water in the dry years.

d) If grant monies are proposed for use for legal assistance then the use of those funds shall be oriented toward advancing the knowledge of alternative agricultural water transfer methods and techniques; not for preparation of a specific water court case. The total requested funds for legal assistance shall not exceed 40 percent of the total grant request. In addition, grant monies proposed for use for legal assistance must be used to collaboratively address issues and concerns related to agricultural water transfer. Funds shall not be used to solely advance the cause of the project proponents.

We will seek legal assistance with the description of site-specific water sharing mechanisms and the prototype agreements that go with each.

e) A minimum of a 10 percent cash match of total project cost (past expenditures and "in kind" cannot be counted toward the 10 percent match).

5. Program/Project Evaluation Criteria

The following grant evaluation criteria will be used by the CWCB to evaluate and make recommendations to fund, partially fund or not fund a grant application. The criteria are aimed at advancing alternative transfer methods from the literature and studies to actual on the ground projects/programs that provide reliable water supply and sustain key elements of the agricultural area from which the water is transferred. The applicant should fully address and explain in detail in the application how, and the extent to which, the proposed project/program meets each of the criteria. However, it should be noted that the project does not have to meet all of the criteria to be eligible to receive funding and the criteria below are not listed in any order of important or priority.

a. The proposed project/program builds upon the work of former alternative water transfer methods efforts and addresses key areas that have been identified. For more detailed information on this work, please refer to the draft report: *Alternative Agricultural Water Transfer Methods Grant Program Summary and Status Update*, November 2012.
b. The proposed project addresses one or more key recommendation(s) in the report: *Alternative Agricultural Water Transfer Methods Grant Program Summary and Status Update*, November 2012.
c. Preference will be given to projects that provide additional matching resources in the form of cash, past expenditures and in-kind contributions that are in addition to the required 10% cash match.
d. The proposed project/program has the ability/potential to produce a reliable water supply that can be administered by the State of Colorado, Division of Water Resources.
e. The proposed project/program produces information that is transferable and transparent to other users and other areas of the state (i.e., would provide an example "template" or roadmap to others wishing to explore alternate transfer methods).
f. The proposed project/program addresses key water needs identified in SWSI 2010 or as identified in a basin's needs assessment.
g. The proposed project/program advances the preservation of high value agricultural lands. Value can be viewed as: the value of crops produced, the value the agriculture provides to the local community, and the value the agricultural area provides for open space and wildlife habitat.
h. The proposed project/program addresses water quality, or provides other environmental benefits to rivers, streams and wetlands.
i. The proposed project/program increases our understanding of and quantifies program/project costs. This could include: institutional, legal, technical costs, and third party impacts.
j. The proposed project/program does not adversely affect access to other sources of water (not subject to/participating in the program) where owners of these water rights may wish to pursue traditional transfer of their rights to other users.
k. The proposed project/program provides a perpetual water supply for the new and/or alternate use and preserves agricultural production and/or helps sustain the area's economy from which the transfer is occurring.
l. The quantity of water produced by the proposed project/program. Preference will be given to programs that can address larger water supply needs.
m. Applicants are encouraged to develop projects demonstrating participation and/or support from a diverse set of stakeholders and interests.

6. Statement of Work

Provide the proposed statement of work. On the following page there is an example format for the statement of work. You can use the example format or your own format, provided that comparable information is included. The statement of work should outline by task how the proposed program/project will be accomplished. It is important that the statement of work detail the specific steps, activities/procedures that will be followed to accomplish each individual task and the overall program/project and the specific products/deliverables that will be accomplished. The statement of work must include but not be limited to: task description, key personnel, budget, schedule and deliverables and the final report/project documentation upon completion of the water activity.

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.