



COLORADO

**Colorado Water
Conservation Board**

Department of Natural Resources

1313 Sherman Street
Denver, CO 80203

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Jared Polis, Governor

Dan Gibbs, DNR Executive Director

Rebecca Mitchell, CWCB Director

TO: Colorado Water Conservation Board Members

FROM: Alexander Funk, Program Manager
Alternative Transfer Methods Grant Program (ATM) Interstate, Federal,
and Water Information Section

DATE: March 10th and 11th, 2021

AGENDA ITEM: Consent Agenda 4(b) Alternative Transfer Methods Grant Program, Lower
Arkansas Valley Water Conservancy District, Evaluation of Land
Protection Measures within Agriculture to Municipal Water Transfers

Staff Recommendation: Staff recommends approval of up to \$25,000 from the Alternative Transfer Methods Grant Program to help fund the "Evaluation of Land Protection Measures within Agriculture to Municipal Water Transfers" project.

Background:

The Colorado Water Plan encourages alternatives to permanent dry-up of irrigated agriculture and utilizes alternative transfer methods (ATMs) to sustain agriculture and rural communities, address public externalities of permanent dry-up, and address multiple water resource challenges. The CWCB's Alternative Water Transfer Methods Grant Program, established in 2007, provides resources to develop and implement ATM projects, including research. The ATM grant program also provides resources for the "life cycle" costs of ATM projects, including project operations and infrastructure. The ATM grant program's current focus is on implementing projects that will result in or facilitate actual wet-water transfers to support multiple uses, including municipal, industrial, agricultural, environmental, and recreational needs. ATM grants are also available to explore voluntary, temporary, and compensated approaches to groundwater sustainability and interstate compact compliance.

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

- 1) Applications are reviewed for completeness based on the information requirements, which are primarily outlined in the ATM Grant Criteria and Guidelines (C&G).
- 2) Applications are reviewed to verify that the water activity meets the eligibility requirements in the C&G.
- 3) Staff then prepares the Water Activity Summary Sheet, which documents the review process's outcome and contains staff's recommendations.

Staff concludes this ATM Grant application is complete. The proposed activity meets the eligibility requirements in the C&G. The Water Activity Summary Sheet, ATM Grant Application, Statement of Work, and Budget and Schedule are attached.

Alternative Water Transfer Methods – Competitive Grant Program
Water Activity Summary Sheet
March 10-11, 2021
Consent Agenda 4(b)

Applicant & Grantee: Lower Arkansas Valley Water Conservancy District

Water Activity Name: Evaluation of Land Protection Measures within Agriculture to Municipal Water Transfers

Water Activity Purpose: Assess the effectiveness of current revegetation and permanent transfer mitigation requirements in the Arkansas River Basin.

Drainage Basin: Arkansas

Water Source: Arkansas River

Amount Requested: \$25,000

Matching Funds: \$94,900 total match

Staff Recommendation

Staff recommends approval of up to \$25,000 from the Alternative Water Transfer Methods Program to help fund the “Evaluation of Land Protection Measures within Agriculture to Municipal Water Transfers” project.
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Water Activity Summary: The purpose of the Evaluation of Land Protection Measures within Agriculture to Municipal Water Transfers Project will be to research and document various land protection and revegetation requirements written into temporary and permanent agricultural water transfers in the Lower Arkansas Basin. This research will inform the development of a standard set of conditions that will better protect the land resource and maximize public benefits.

Transfers from agricultural use to municipal and industrial uses require that irrigation cease on the agricultural lands to avoid injury to other water rights holders and expand the water right. As a result, most water right acquisitions include dry-up covenants requiring the seller of the water right to agree to cease irrigation of the historically irrigated lands permanently. In addition to dry-up covenants, water courts are also authorized to include terms and conditions that require reasonable provisions concerning revegetation and noxious weed management of lands from which irrigation water is removed to prevent soil erosion and other land resource issues. Temporary transactions approved by the Colorado Division of Water Resources also include revegetation and weed management conditions.

While these requirements exist, the logistics of successfully revegetating historically irrigated fields can entail a difficult, lengthy and costly process. The overall success of revegetation may depend on many factors, including the availability of alternative water supply, soil conditions, and the local climate. The Lower Arkansas Valley Water Conservancy District, through this project, will conduct an extensive research initiative assessing the effectiveness of current revegetation and weed management requirements in the Lower Arkansas Basin to develop an informative approach to future revegetation efforts to avoid unintended natural resource and community impacts. In particular, the

research will focus on the effects of various revegetation approaches to soil health, water quality, wildlife habitat, and public health. The study will focus on reviewing current legal requirements, dry-up agreements, and interviews with entities involved with transfers, local government, and local conservation districts. The research team will also perform site visits and physically investigate historically irrigated lands to assess various impacts and effectiveness of revegetation strategies. Ultimately, the project will produce recommendations to inform land resource protection requirements that will minimize negative natural resource and community impacts and best management practices for revegetation.

Discussion: Staff supports the application based on the following considerations. The proposed project will build on previous research into revegetation issues in the South Platte Basin conducted in 2013; to date, there has not been a similar assessment in the Arkansas Basin. Ultimately, the research could inform future revegetation strategies to minimize natural resource and community impacts and maximize community benefits such as water quality and soil health. The research could particularly inform possible state and local policy decisions to enhance revegetation efforts to provide ecosystem services such as carbon sequestration and support dry-land farming or grazing on these lands. The project will also be informative to the state in crafting terms and conditions for temporary water transactions to avoid soil health impacts, allow for dry-land farming, and demonstrate other ecosystem benefits of temporary water transfers.

Issues/Additional Needs: CWCB staff will work with the project team in facilitating discussions around best management practices for revegetation.

CWCB Project Manager: Alexander Funk



COLORADO WATER CONSERVATION BOARD



ALTERNATIVE AGRICULTURAL WATER TRANSFER METHODS COMPETITIVE GRANT PROGRAM

GRANT APPLICATION FORM

Evaluation of Land Protection Measures within Ag to Municipal Water Transfers	Arkansas River Basin
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Program/Project Name

River Basin Name

\$25,000

\$94,900

Amount of Funds Requested

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 Craig Godbout of the Water Supply Planning Section (Colorado Water Conservation Board) for assistance, at (303) 866-3441 x3210 or email at craig.godbout@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 Craig 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):	Lower Arkansas Valley Water Conservancy District c/o Jay Winner		
	Mailing address:	801 Swink Avenue Rocky Ford, CO 81067		
	Taxpayer ID#:	48-1298144	Email address:	jwinner@lowerark.com
	Phone Numbers: Business:	719-254-5115		
	Home:			
	Fax:	719-254-5150		

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

Name:	
Position/Title	

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

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4. 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.
 - 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.
 - 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.
 - d) A brief history of the Applicant(s).
 - e) Please include any relevant Tabor issues relating to the funding request that may affect the Contracting Entity.

The Lower Arkansas Valley Water Conservancy District was formed in 2002 by a vote of the electorate of Pueblo, Otero, Crowley, Bent and Prowers Counties to conserve water resources for the greatest beneficial use within the District. The Lower Arkansas Valley Water Conservancy District encompasses most of the lower Arkansas River Basin, from above Pueblo Reservoir to the Kansas state line, including Pueblo and John Martin Reservoirs.

The District has a general fund budget of approximately \$1.7 million per year, funded primarily by a 1.5 mill levy on real property with the District. The budget is utilized entirely for water related activities such as conservation practices, water quality, alternate water transfer methods and water quantity type matters. Currently the District has five full time and five contracting employees.

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.

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.

The purpose of this project is to research and document the many and varied land protection requirements that have been written into temporary agricultural water transfer authorizations (for Alternative Transfer Methods) and permanent transfer decrees in the lower Arkansas River Basin and develop a common set of requirements that will better protect the land resource.

The transfer of water rights from agricultural irrigation to other uses, primarily for municipal uses, has a long history in Colorado. In order to prevent expansion of use, the previously irrigated lands are required to be dried up. Colorado water law (C.R.S. 37-92-305(4.5)(a)) requires terms and conditions for permanent transfers that include “reasonable provisions designed to accomplish the revegetation and noxious weed management of lands from which irrigation water is removed”, but does not provide further requirements on how revegetation should be implemented or how to assign accountability. These requirements, if any, have been written into water court decrees for permanent transfers and State Engineer authorizations for temporary transfers.

Although there have been a variety of requirements and considerations for how to best manage and protect the land resource following the removal of the irrigation water, the effectiveness of these requirements and their respective implementation have not been extensively compared and evaluated.

The project team will research many of the major water transfer decrees and temporary authorizations that have occurred in the Arkansas River Basin and select ten to fifteen to analyze further. The project team will then document the dry-up provisions from each project and the actions taken by the project participants to comply with their respective requirements and evaluate the appropriateness and effectiveness of both. Impacts to soil health and animals (including wildlife and grazing livestock) will also be considered in this evaluation. Interviews will be conducted with the entities involved with the transfer, local government

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representatives, and local conservation districts, to investigate needs and concerns with the management of these previously irrigated lands.

Ultimately, project proponents will develop a common set of land resource protection requirements that can be used within decrees and approvals of future water transfer projects, with the goal of providing a means to better protect the land resource base.

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2. Study Area/Service Area Description

The study area/service area is generally the geographic area that is the subject of the proposed program/project (include both the source of supply and location and type of new use). The description should include the following items:

- 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.

The study area will include previously-irrigated lands within the Arkansas River Basin in Colorado. The project team will research many of the major agriculture to municipal water transfers (both temporary and permanent) that have occurred in the Arkansas River Basin and select ten to fifteen to analyze further. The total number of acres evaluated will depend on which transfer projects are selected for further analysis, but are anticipated to be in the thousands. Previously irrigated lands within the Arkansas River Basin in Colorado are typically located in rural agricultural areas that suffer from poor socio-economic conditions.

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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.

This project will analyze the effectiveness of land protection requirements on previously-irrigated lands involved in agricultural to municipal water transfer projects. These will include both temporary and permanent transfer projects. Although this project will not directly provide water supply to new end users, it will evaluate projects that do, in order to determine what land protection requirements and methods have proven successful in protecting the land resource and which have not.

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.
- 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.
- 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.
- 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.
- e) A minimum of a 10 percent cash match of total project cost (past expenditures and “in kind” can not be counted toward the 10 percent match).

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Municipal water demands continue to increase and, consequently, so will agriculture to municipal water transfers. There are varying opinions on how best to protect the land resource after water is removed and no succinct investigations to determine which methods, procedures and accountability structure work best. This project is specifically designed to provide recommended evidence-based land protection provisions that can be used in future water transfers to protect the previously-irrigated lands, for both temporary and permanent water transfers.

This project will not provide additional water supply to municipalities and others, but will research and document the level to which varying land protection requirements and activities have been successful. It will then develop recommended land protection guidelines to better protect the land resource in future temporary and permanent water transfers.

The Lower Arkansas Valley Water Conservancy District will provide a 74% funding match for this project.

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.

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- 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.

Previous work done through the Alternative Agricultural Water Transfer Methods Grant Program has supplied much information related to developing water supplies for municipal use with the focus being on alleviating the pressure on agriculture that is experienced with buy-and-dry scenarios. However, lacking in this approach is the evaluation of impacts upon the land resource, as the focus has been primarily on the economic and supply impacts of transferring water.

Through this proposed project, the measures needed to provide for the protection, preservation, and enhancement of the land resource when irrigation water is removed will be identified. The investigation must be wide in its scope to look beyond just the impacts of temporary fallowing and include the investigation of permanent transfers to understand the additional impacts upon the land and the secondary impacts to related lands, wildlife and citizens. Without the full understanding of the mitigation needed on the lands, the full extent of the dry-up is not addressed. Consequently, the costs associated with maintaining the land resource in a permanent buy-and-dry project are underestimated in the total cost of permanent water transfers.

The use of temporary fallowing to provide a source of water is not without its impacts to the land resource. While other studies have evaluated the water demands upon re-irrigation of fallowed land, nothing has been developed that provides evidence-based recommendations to protect and enhance the land resource during fallowing and protect the adjacent lands from noxious weeds and blowing soils.

This project will develop uniform guidelines that will be transferable and available for use by multiple entities including ditch companies, soil conservation districts, municipal entities, counties, or the state in evaluating the potential impacts of future water transfers, whether temporary or permanent. The value of having a uniform set of guidelines will have widespread value in preparation of water transfer decrees and temporary authorizations, assisting engineers and attorneys in their preparation.

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.



Rob Oquist - Commissioner Dist. 1
John Hostetler - Commissioner Dist. 2
Jim Baldwin - Commissioner Dist. 3
Nathan Shultz - County Attorney
Amy White-Tanabe - County Administrator

Office of the Commissioners

January 25, 2021

Colorado Water Conservation Board
1313 Sherman Street, Suite 718
Denver, CO 80203

RE: Letter of Support – Evaluation of Land Protection Measures within Ag to Municipal Water Transfers

Dear CWCB Board of Directors,

The Otero County Commissioners are pleased to write this letter of support for the Evaluation of the Land Protection Measures within Ag to Municipal Water Transfers grant application being submitted by the Lower Arkansas Valley Water Conservancy District (LAVWCD).

The lower Arkansas Valley, including Otero County, has experienced thousands of irrigated acres having been dried-up over the years to provide water supply to growing municipalities along the Front Range. The requirements and methods used to protect these previously-irrigated lands have varied with each transfer, but land reclamation has proven to be difficult to achieve in all cases.

As part of this project, the LAVWCD and its project partners will research and document land protection requirements of various water transfer projects in the Arkansas Valley. By conducting interviews with associated parties and performing site visits to physically investigate the condition of these lands, they will be able to compare and contrast the effectiveness of each project's land protection methods and requirements. This will provide the necessary evidence to allow for a recommended set of land protection methods and requirements to be developed that will help to better protect Arkansas Valley and Otero County lands during future water transfers.

We urge you to approve this project for grant funding and look forward to its important and informative results.

Sincerely,


Jim Baldwin, Chairman
Otero County Commissioner


John Hostetler
Otero County Commissioner


Rob Oquist
Otero County Commissioner



Bent County Board of County Commissioners

February 25, 2021

Colorado Water Conservation Board
1313 Sherman Street, Suite 718
Denver, CO 80203

RE: Letter of Support – Evaluation of Land Protection Measures within Ag to Municipal Water Transfers

Dear CWCB Board of Directors,

The Bent County Commissioners are pleased to write this letter of support for the Evaluation of the Land Protection Measures within Ag to Municipal Water Transfers grant application being submitted by the Lower Arkansas Valley Water Conservancy District (LAVWCD).

The lower Arkansas Valley, including Bent County, has experienced thousands of irrigated acres having been dried-up over the years to provide water supply to growing municipalities along the Front Range. The requirements and methods used to protect these previously-irrigated lands have varied with each transfer, but land reclamation has proven to be difficult to achieve in all cases.

As part of this project, the LAVWCD and its project partners will research and document land protection requirements of various water transfer projects in the Arkansas Valley. By conducting interviews with associated parties and performing site visits to physically investigate the condition of these lands, they will be able to compare and contrast the effectiveness of each project's land protection methods and requirements. This will provide the necessary evidence to allow for a recommended set of land protection methods and requirements to be developed that will help to better protect Arkansas Valley and Bent County lands during future water transfers.

We urge you to approve this project for grant funding and look forward to its important and informative results.

Sincerely,

Jean Sykes, Chairwoman
Bent County Commissioners