



**COLORADO**

**Colorado Water  
Conservation Board**

Department of Natural Resources

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**TO:** Colorado Water Conservation Board Members

**FROM:** Mara MacKillop, Water Supply Planning Section

**DATE:** September 20-21, 2017 Board Meeting

**AGENDA ITEM:** 12a-i. Water Plan Grants - Engagement & Innovation  
Initial Consideration

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**This item is for consideration only. No Action is required at this time**

### Introduction

The Engagement & Innovation category has \$1 million in available funds. In the first round of applications, the CWCB received 11 applications totaling \$879,525. The CWCB also received seven Intent to Apply notices totaling \$849,662.

Staff moved one application to the Water Conservation and Land use category and considered the remaining 10 applications. Due to the large total grant request received in the first round, staff approached the review process by identifying the tasks in each application that aligned best with Colorado's Water Plan and then worked with each applicant to modify the request. Staff's goal was to reduce the total Engagement & Innovation funding request to provide funding for future grant application rounds while still supporting the high-quality, innovative, and effective projects from the first round. As a result, staff is supporting nine applications with a reduced total funding request of \$619,775. If the Board approves all nine applications, there will be \$380,225 available for future rounds of grant funding.

Applicant	Project Name	Request	% of Project	Staff Support
a. Arkansas River Basin Water Forum	Implementing the Education & Outreach Goals of the Arkansas Basin Implementation Plan through Education to Action Projects/Programs	\$29,400	40%	\$24,350
b. Colorado Cattlemen's Association	Agriculture Water Collaborative	\$152,400	25%	\$76,200
c. Colorado Foundation for Agriculture	Understanding Water Activity Book	\$65,000	98%	\$64,000
d. Colorado Foundation for Water Education	Deepening Water Engagement through Expansion of the Water Educator Network	\$174,000	51%	\$110,000
e. Colorado Open Lands	Enhancing the Colorado	\$85,750	19%	\$61,750



	Water Plan through Comprehensive Education and Outreach			
f. Denver Botanic Gardens	Water in the West: Exhibition & Outreach through the Gardens	\$44,750	47%	\$44,750
g. Geothermal Greenhouse Partnership, Inc.	Community Garden and Innovation Greenhouses	\$186,000	65%	\$174,500
h. Open Water Foundation	TAP-IN	\$60,000	77%	\$54,000
i. One World One Water Center at MSU Denver	WaterWise Circa 2018: Water Theatre Company	\$10,225	65%	\$10,225

See attached Data Sheets for locations and summaries.

### Staff Review and Comments

- a. Arkansas River Basin Water Forum - Implementing the Education & Outreach Goals of the Arkansas Basin Implementation Plan through Education to Action Projects/Programs

This project is to support the implementation of projects and programs within the Arkansas Basin Implementation Plan (ArkBIP), Education Action Plan, and Colorado's Water Plan (CWP) through education, outreach, communication, and participation utilizing various types of collaborations and partnerships throughout the entire Arkansas Basin. This application includes seven different tasks involving many partners. The projects/programs include:

1. Arkansas Valley Conduit Outreach and Education Meetings
2. Arkansas River Basin Water Forum Education & Outreach Programs
3. Support the PEPO Coordinator
4. Development of a Community or Children Water Festival
5. Creek Week on the Purgatoire River
6. State of the Purgatoire Event
7. Arkansas River Watershed Collaborative (ARWC) Outreach Program

The project received a letter of support from the Arkansas Basin Roundtable, Southeastern Colorado Water Conservancy District, and Purgatoire Watershed Partnership. The applicant has 35% cash match and 78% in-kind for their grant request.

Staff recommends Board approval.

- b. Colorado Cattlemen's Association - Agriculture Water Collaborative

This project will utilize multiple proven outreach methods to engage and inform ag water right holders and non-ag water interests about contemporary ag water issues, including the direct and indirect benefits of irrigated agriculture and how agriculture and other water interests can benefit from mutual

collaboration. The project uses a variety of educational tools: webinars, workshops, presentations, tours, videos, publications, and media outreach.

The Colorado Water Plan calls for maintaining Colorado's agricultural productivity (Section 6.5) and elevating the awareness of Colorado's citizens when it comes to water issues affecting the state (Section 9.5). This application focuses on providing information to producers on water conservation, irrigation efficiency, water rights and ATMs in order to help the agricultural industry become more efficient, resilient, and able to sustainably share water with other water interests using a market-driven approach.

The project received a letter of support from the Colorado River District, Colorado Water Institute, Metro Roundtable, The Nature Conservancy, Walton Family Foundation, and Arkansas PEPO group. The applicant has 50% cash match for their grant request.

Staff recommends Board approval.

c. Colorado Foundation for Agriculture - Understanding Water Activity Book

This project will update the Understanding Water Activity Book and print and distribute 40,000 copies. The book is free to any Colorado educator that requests it. It will be made available for the PEPO groups and Basin Roundtables as well, which will aid them in the implementation of their Education Action Plans and BIPs. The book is used as the textbook on water for many third- and fourth- grade classrooms statewide.

This project helps achieve the education and outreach goal in CWP in Chapter 9.5 as it targets third through sixth grade students and provides high-quality, interactive education resources.

The project received a letter of support from the Metro Roundtable, Arkansas PEPO group, and St. Vrain and Left Hand Water Conservancy District. The applicant has 1% cash match for their grant request. This project does not meet the suggested cash match requirements, but involves a large group of statewide partners who have invested in-kind resources for years, including \$20,000 in-kind from the Colorado Foundation for Agriculture. The \$65,000 total project cost will produce 40,000 books (each with 76-pages\_, resulting in a cost of \$1.60 per book. It is high-quality of significant value to K-12 education.

Staff recommends Board approval.

d. Colorado Foundation for Water Education - Deepening Water Engagement through Expansion of the Water Educator Network

This project expands one of the CFWE's most far-reaching programs, the Water Educator Network (WEN), which exists to both coordinate activities and increase the capacity of local water educators. It will build capacity to provide resources, trainings and collaboration opportunities that are easily accessible and simple to implement, as well as develop an online water resource directory for educators. The project supports three years of WEN programming.

This project helps achieve the three main goals in Chapter 9.5 of CWP: Create a new outreach, education and public engagement grant fund, Create a data-based water education plan, and Improve the use of existing state resources, as well as the measurable objectives in the plan by improving the water awareness, appreciation, and sophistication of community members to be

able to “speak fluent water” in order to foster improved stewardship and participation in local decision making and stakeholder processes related to water.

The project received a letter of support from the Colorado Basin Roundtable, Southwest Basin Roundtable, and Metro Roundtable. The applicant has 22% cash match for their grant request.

Staff recommends Board approval.

e. Colorado Open Lands - Enhancing the Colorado Water Plan through Comprehensive Education and Outreach

The goal of this project is to expand the Rio Grande Basin’s outreach efforts by incorporating key topics from CWP and the BIP. It includes targeting youth, educators, community members, ag producers and elected officials through mentoring, teacher workshops, project tours, seminars, and education and engagement tools.

The project helps achieve CWP goal in Chapter 9.5 to “significantly improve the level of public awareness and engagement regarding water issues statewide by 2020,” as well as the BIP and Education Action Plan. This project addresses the 14 Rio Grande Basin Goals and the objectives that the BIP identifies: Outreach, Education and Participation through collaboration across demographics and audiences.

The project received a letter of support from the Rio Grande Basin Roundtable. The applicant has 79% cash match and a significant amount of in-kind (\$187,200) for their grant request.

Staff recommends Board approval.

f. Denver Botanic Gardens - Water in the West: Exhibition & Outreach through the Gardens

This project supports the development and implementation of a new, comprehensive exhibition within the Denver Botanic Gardens’ Science Pyramid venue to educate Coloradans and visitors to the state about water in the West, highlighting Colorado’s water issues and needs for conservation, reuse, and preservation/enhancement of natural environments. The digital learning space offers an ideal forum for discovery and presents multiple ways for participants to understand how water, through its presence or absence, affects people, plants, and animals in all of Colorado’s life zones, from steppe to alpine. The Gardens will include new methods for data visualization to illustrate impacts of water scarcity and educate about best practices for stewardship.

This project helps achieve CWP Section 9.5, pg. 9-59: “Work closely with organizations that specialize in the facilitation of public education and outreach programs in order to leverage existing resources within each basin and increase overall impact.” The exhibition and education project also addresses the priority topics noted in the same section, including Colorado’s water challenges, solutions, and the need to be adaptable to changing conditions; connection between climate change and water; water conservation and reuse; integration of land use and water supply; and water quality.

The project received a letter of support from Randi Brazeau, member of the Metro Roundtable. The applicant has 111% cash match for their grant request.

Staff recommends Board approval.

g. Geothermal Greenhouse Partnership, Inc. - Community Garden and Innovation Greenhouses

This project is to construct and build-out the Community and Innovation Domes, which will facilitate community and regional outreach, education and innovation activities. The Community Dome will be a gathering space to grow food and community with local energy, anchored in water conservation principles. The Innovation Dome will be an aquaponic growing environment, demonstrating high yields of food and extreme water conservation.

This Geothermal Greenhouse Partnership (GGP) Project supports CWP by helping achieve the education and outreach goal, and to help meet the state's projected 2050 water supply gap. The GGP Project will work toward narrowing that gap by using a water right to develop a beneficial- and multi-use agricultural project, as well as an environmental education project. In addition, water savings from the GGP Project will result from the closed-system dome structures, which significantly reduces evaporative losses. Moreover, the use of drip irrigation systems requires less water and yields more crops per gallon. In general, growing domes use 1/3 less water than conventional methods. It also supports the goals of the Southwest Basin Roundtable BIP under *New Multi-Purpose, Cooperative, and Regional Projects & Processes*.

The project received a letter of support from the Archuleta Board of County Commissioners, Archuleta School District, Colorado Energy Office, Board of Colorado Garden Foundation, Southwest Basin Roundtable, Region 9 Economic Development District of SW Colorado, Santa Fe Community College, and Town of Pagosa Springs. The applicant has 48% cash match for their grant request.

Staff recommends Board approval.

h. Open Water Foundation - TAP-IN

TAP-IN is the first of its kind water reverse pitch innovation challenge in Colorado, and was born out of Colorado's Water Plan. The CWCB grant funding will be used to support TAP-IN's programs in 2018. These programs include a water-focused Trout Tank Pitch Accelerator in partnership with the Denver Metro Chamber of Commerce, Denver Water, and Colorado State University; two reverse pitch events; a water investment/financing training and dialogue event; and a water innovation symposium and solutions showcase. This funding will help support marketing, communications, and outreach for each program/event, as well as data collection to measure success/impact and improve future offerings.

TAP-IN is the initiative CWP called for under the 3<sup>rd</sup> action in Chapter 9.5: "The CWCB will work with stakeholders to identify five water challenges that Colorado's innovation community could help solve, develop an award program, and engage Coloradans in the challenge" and "will work with Colorado's innovation community, education and outreach experts, research institutions, and the governor's Colorado Innovation Network (COIN) to address Colorado's water challenges with innovation and outside the box creativity" (pg. 9-61).

The project received a letter of support from Denver Water, Colorado State University, John Stulp, Nick Rancis (a water entrepreneur), and the Metro Roundtable. The applicant has 19% cash match for their grant request.

Staff recommends Board approval.

i. One World One Water Center at MSU Denver - WaterWise Circa 2018: Water Theatre Company

This project will continue the WaterWise Theatre Company developed in 2014 by One World One Water Center at Metropolitan State University (MSU) of Denver, the Theatre Department at MSU Denver, Aurora Water, the City of Boulder, and Denver Water. MSU Denver students learn about current Colorado water issues and water supply concepts and create a 20-minute ensemble performance about protecting and conserving Colorado's water. The project received the "2015 Innovation in Environmental Education" award from the Colorado Alliance for Environmental Education. This project will fund three performances at the Aurora, Boulder and Denver Water Festivals that reach over 3,000 students in 2018.

The project helps achieve CWP goal in Section 9.5 by enhancing and promoting watershed education for a critical age group - college students and 5th and 6th grade students. Colorado's Water Plan identifies the OWOW Center at MSU Denver as groups leading campus communities on water supply planning, research, dialogue, and education. Bringing together water providers in the Denver metro area allows for unique opportunities to spearhead programs that will incorporate Colorado's Water Plan priorities and campus educational outreach goals.

The project received a letter of support from the Theatre Department at MSU Denver, Aurora Water, the City of Boulder, and Denver Water. The applicant has 29% cash match and 24% in-kind match for their grant request.

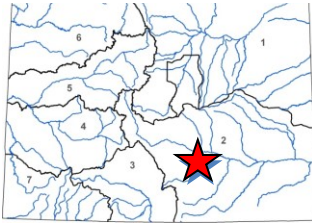
Staff recommends Board approval.



## Implementing the Education & Outreach Goals of the Arkansas Basin Implementation Plan/ Arkansas River Basin Water Forum

September 2017 Board Meeting  
Initial Consideration

### Water Plan Grant Application



#### L O C A T I O N

*County/Countries:* Baca, Bent, Chaffee, Crowley, Custer, El Paso, Fremont, Huerfano, Kiowa, Lake, Las Animas, Otero, Prowers, Pueblo

*Drainage Basin:* Arkansas

#### D E T A I L S

<i>Total Project Cost:</i>	\$60,175
<i>Water Plan Grant Request:</i>	\$24,350
<i>Other CWCB Funding:</i>	\$0
<i>In-kind Funding:</i>	\$19,200
<i>Applicant Match:</i>	\$8,450
<i>Project Type(s):</i> Education & Outreach	
<i>Project Category(Categories):</i> Engagement & Innovation	
<i>Measurable Result:</i> Increase the knowledge base of Colorado citizens on the importance, value, and benefits associated with the implementation of ArkBIP and CWP identified projects and processes	

The proposed grant project is a collaborative project between three entities to implement education and outreach projects identified in PEPO's Education Action Plan (EAP) and the ArkBIP. The ARBWF will act as the fiscal agent; the PEPO Coordinator and Workgroup will provide the ground work that includes: organization, planning and implementation of all programs; and the Executive Committee of the Arkansas Basin Roundtable will oversee all projects/programs and will provide guidance and direction to ensure that the programs align with the needs identified in the Arkansas Basin Implementation Plan (ArkBIP).

Funding will be used for seven projects with many different partners: 1) Arkansas Valley Conduit Outreach and Education Meetings; 2) Arkansas River Basin Water Forum Education & Outreach Programs; 3) Support the PEPO Coordinator; 4) Development of a Community or Children Water Festival; 5) Creek Week on the Purgatoire River; 6) State of the Purgatoire Event; and 7) Arkansas River Watershed Collaborative (ARWC) Outreach Program.

The proposed projects address goals defined in CWP in Section 9.4, pp. 9-43 and 9.44. The projects demonstrate a commitment to collaboration by addressing multiple educational and outreach needs with multiple partners while representing a broad set of local stakeholders and governments and providing meaningful opportunities for input. As stated in the ArkBIP: "Through various methods of reaching out to the public, PEPO has been a catalyst to productive partnerships among community leaders, media outlets, and active citizen groups supporting collaboration across the basin."

The proposed project also addresses the identified water gap in the ArkBIP through implementation of PEPO's Education Action Plan. The project demonstrates sustainability by educating stakeholders and the public on best practices related to conservation, environmental and recreational interests, ways to mitigate or enhance water quality, and demonstrates techniques to avoid economic and social impacts on agricultural and rural communities. The proposed educational projects are critical to moving ArkBIP identified projects into implementation, which will also help achieve each of the measurable objectives, goals, and actions in Colorado's Water Plan.

The project includes integrated plans for best water use practices that are geared toward implementation with high audience participation. The project demonstrates fiscal cost-effectiveness from local in-kind investment (\$19,200) and financial contributions (\$8,450). The proposed project is organized and ready to be implemented upon receipt of a CWP grant Notice to Proceed.



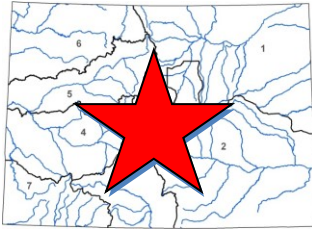
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## Agriculture Water Collaborative Colorado Cattlemen's Association

September 2017 Board Meeting  
Initial Consideration

### Water Plan Grant Application



#### L O C A T I O N

County/Counties: statewide

#### D E T A I L S

Total Project Cost:	\$152,400
Water Plan Grant Request:	\$76,200
Other CWCB Funding:	\$0
Applicant Match:	\$76,200
Project Type(s):	Education & Outreach
Project Category(Categories):	Engagement & Innovation / Agriculture
Measurable Result:	10 workshops, 7 conf/tradeshows, 3 webinars, 2 videos, 5 ag water tours, 6 publications, 1 screen tool

This project will utilize multiple proven outreach methods to engage and inform ag water right holders and non-ag water interests about contemporary ag water issues, including the direct and indirect benefits of irrigated agriculture and how agriculture and other water interests can benefit from mutual collaboration. The project will dispel confusion around ag water leasing-related issues and raise the level and depth of understanding about ATMs among the irrigated ag and non-ag water communities.

The educational tools - webinars, workshops, presentations, tours, videos, publications, and media Outreach - will be strategically utilized to synthesize a factual, comprehensive body of resources that will be presented both in live venues around the state and also accessible on demand for all Colorado citizens to access at any time.

The project will influence ag water decision-makers in all river basins, with particular focus on the Colorado (mainstem and tributaries), Rio Grande, and South Platte River Basins. The locations of workshops, tours and meetings will be identified with the goal of reaching as many individual ag water right holders and ditch company members as practicable. We will engage with non-ag water interests through these efforts to facilitate sharing of perspectives and needs among the disparate water groups.

CWCB funding will be used to help support the planning, implementation and follow-up work related to the workshops, tours, presentations, webinars, videos, lease screening tool use analysis and refinement, and other statewide outreach efforts that will be accomplished through this project.

Through continuing to engage producers and non-producers about agricultural water use, the proposed joint CCA Ag Water NetWORK I Colorado Ag Water Alliance project will advance the goals of the Colorado Water Plan and the Basin Roundtables. The Colorado Water Plan calls for maintaining Colorado's agricultural productivity (Section 6.5) and elevating the awareness of Colorado's citizens when it comes to water issues affecting the state (Section 9.5). CCA's Ag Water NetWORK and CAWA specifically focus on providing information to producers on water conservation, irrigation efficiency, water rights and ATMs in order to help the agricultural industry become more efficient, resilient, and able to sustainably share water with other water interests using a market-driven approach.

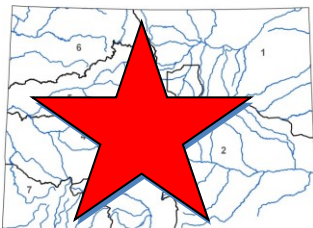
The Water Plan references this type of support, focusing on ditch-wide and regional conservation and efficiency opportunities and tradeoffs, long-term infrastructure maintenance needs, and the potential benefits of water sharing agreements (Sections 6.3.4, 6.4 6.5).

The Education and Outreach section of the Water Plan also calls for "education for farmers on available incentives for on-farm implementation of agricultural conservation measures, water sharing opportunities, and other tools available to growers" (Section 9.5).





## Water Plan Grant Application



### L O C A T I O N

County/Countries: Statewide

### D E T A I L S

Total Project Cost:	\$65,000
Water Plan Grant Request:	\$64,000
Other CWCB Funding:	\$0
Applicant Match:	\$1,000
Project Type(s):	Education & Outreach
Project Category:	Engagement & Innovation
Measurable Result:	Produce and distribute 40,000 activity books reaching over 1,600 classrooms

The goal of this project is to update and print 40,000 copies of the *Understanding Water Activity Book*. The book is 76 pages and covers the basics of water, the science behind water, the many uses, and the importance of protecting our limited supplies. The target audience is third through sixth students. The book is distributed hard copy and through an e-publication.

The *Understanding Water Activity Book* series is free to any Colorado educator who requests it. CFA has produced and distributed over 100,000. The book not only makes the learning experience fun and interactive, but aligns with Full Option Science Systems (FOSS) kits that many teachers use today and meets Colorado's K-4 state standards. Many schools use the *Understanding Water Activity Book* as their textbook on water for third and fourth grade students, to such an extent that the CFA distributes between 10,000 and 12,000 each year, and has now exhausted its supplies. The book was first published in 1998 and is now in its third edition.

This project will help achieve the education goal of Colorado's Water Plan by educating the next generation. The activity book and e-pub provides elementary students with a foundation for beginning their journey to understand the complexity of our water resources. It allows multiple schools to utilize the same water education resource that helps provide consistency and uniform educational materials.

This resource will help each basin achieve their Education Action Plans. Many basins reference outreach activities, including developing educational content that the CFA can provide, which will save them time and money. It provides an easy way for the 9 basins and PEPO workgroups to add a 3<sup>rd</sup> - 6<sup>th</sup> grade educational component to their education/outreach efforts.

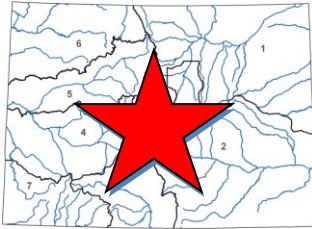
Partners in developing the previous book include: Children's Museum, Colorado Water Conservancy, Denver Regional Council, Sierra Club, Colorado Department of Public Health & Environment, Central Colorado Water Conservancy District, Colorado River Water District, Colorado Department of Agriculture, Colorado Department of Education, Denver Post Newspaper, Fort Collins Water Utilities, Northern Colorado Water Conservancy, CSU Cooperative Extension and Poudre School District.

Although CFA does not have the 20% cash match for this project, they have already invested over \$20,000 in the research, writing, and artwork in this publication. There has been an additional amount of in-kind donations from the groups that helped review it and from the educators that helped to pilot test it. The \$64,000 request for 40,000 books makes the cost for a 76-page book \$1.60, and free to educators.

Lisa Carrol, a fourth-grade teacher who uses the curriculum at Denver's North Mor Elementary, said that "the *Understanding Water Activity Book* was easy for all of my students to read, no matter what their level. It was entertaining, informative and the kids didn't look at it as work."



## Water Plan Grant Application



### L O C A T I O N

County/Counties: statewide

### D E T A I L S

Total Project Cost:	\$134,000
Water Plan Grant Request:	\$110,000
Other CWCB Funding:	\$4,000
Applicant Match:	\$20,000
Project Type(s):	Education & Outreach
Project Category(Categories):	Engagement & Innovation
Measurable Result: # Coloradans reached -	120,000 from July 2016-June 2017 - will expand

The proposed project is to expand one of the CFWE's most far reaching programs: Water Educator Network (WEN). WEN established in 2014, is an outcome of the Water Education Task Force and comprised of educators who are interested in increasing the amount, quality and effectiveness of water education across Colorado. This grant would provide support to expand the goal of WEN, which is to both coordinate activities and increase the capacity of local water educators. CFWE will build capacity to provide resources, trainings and collaboration opportunities that are easily accessible and simple to implement, as well as develop an online water resource directory.

The grant will help achieve the goals in Colorado's Water Plan, specifically in Chapter 9.5: Goal 1- Create a new outreach, education and public engagement grant fund; Goal 2- Create a data-based water education plan; and Goal 3- Improve the use of existing state resources. It will also help to achieve the other measurable objectives in the plan.

The Water Educator Network's purpose is to both coordinate activities and increase the capacity of local water educators by providing members with tools, trainings and collaborations that are relevant to their work, easily accessible, and simple to implement. Network members in turn advance understanding and community engagement in local communities across Colorado, using best practices in community education and outreach fostered through Network workshops, trainings and other resources.

The Water Educator Network's target audience consists of local educators and outreach professionals working to inform and engage stakeholder groups, and encourage informed participation in their communities around water. Network members in turn deliver programs that reach thousands of Colorado citizens across the state, ranging from K-12 to university students, local community members, business leaders, and more. We will continue to develop the Network's capacity to reach these groups of people through growing the Network membership program, continued partner development in each river basin, and marketing our programs through local water, school and community groups.

This project and the Engagement & Innovation Grant Fund aim to equip Coloradans to create well-informed communities through the provision of engaging, relevant and balanced educational opportunities. The Water Educator Network program was developed based on data that showed a need for these types of programs and will continue to evolve and grow based on feedback and reported needs across Colorado.

WEN is comprised of many organizations who educate the community about water and expanding WEN will increase effective communication; enhance collaboration with the BRTs and PEPO to achieve the goals in the BIPs, SWSI, and Education Action Plans (EAP); and expand the community knowledge about Colorado's Water Plan, the Education and Outreach goals in Chapter 9.5, and other goals in the plan, as well as funding sources and resources for projects.



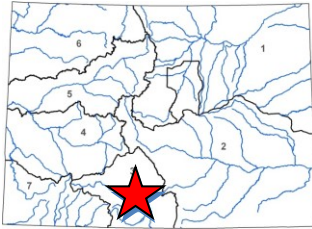
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## Enhancing Colorado's Water Plan Colorado Open Lands

September 2017 Board Meeting  
Initial Consideration

### Water Plan Grant Application



#### L O C A T I O N

*County/Counties:* San Luis Valley, CO  
Alamosa, Conejos, Costilla, Hinsdale, Rio  
Grande, Saguache

*Drainage basin:* Rio Grande

#### D E T A I L S

<i>Total Project Cost:</i>	\$297,450
<i>Water Plan Grant Request:</i>	\$61,750
<i>In-kind match:</i>	\$187,200
<i>Applicant Match:</i>	\$48,500
<i>Project Type(s):</i> Education & Outreach	
<i>Project Category(Categories):</i> Engagement & Innovation	
<i>Measurable Result:</i> expand current outreach efforts within the upper Rio Grande Basin	

The goal of this project is to expand current outreach efforts within the upper Rio Grande Basin by incorporating key topics from the State Water Plan and Basin Implementation Plan. The education and outreach will compliment what the basin is currently doing, but will be targeted to specific needs.

The target audiences are: Students (K-College) and Teachers (Statewide), General Community Members, Agricultural Producers, Water Users (Consumptive and Non-Consumptive), Government Officials (Town/City, State and Federal), and Roundtable Members.

The Rio Grande Basin Roundtable has a strong outreach plan and has had since 2011. These plans have been developed by a variety of stakeholders from the roundtable and at large community members. This project addresses the 14 Rio Grande Basin Goals that address four key user groups. These projects employ the tenants that the Rio Grande Basin plan identifies: Outreach, Education and Participation through collaboration across demographics and audiences.

The RGBRT believes this project “significantly improves the level of public awareness and engagement regarding water issues statewide by 2020.”

- Youth Education will consist of instructional mechanisms built into existing, well attended and received programs: the Youth Conservation Camp for students 8-13 years old, State Envirothon competition and class room visits that target water and water issues using the Riparian and River Study Center and Ground Water Model and will be offered to students in the six counties in the upper Rio Grande Basin but are easily replicated for other areas in the state.
- Educator education to teachers from across the state and opportunity to attend week long workshops that look intensively at water and watersheds in terms of the human role, sustainability, the role of watersheds and food and food production.
- Internship opportunities for students ages 16 - 22 years of age, who are partnered with private organizations who work in natural resources and resource management, where the earn while they learn.
- Engage community members on a set of tours of projects across the basin and state that meet Colorado Water Plan outcomes.
- Elected officials will have the opportunity to engage water leaders regarding key question and concerns. They will also be introduced to the collaborative community of the roundtable process and its mission to protect and sustain Colorado water resources.
- Ag Producers will engage in a collaborative set of tours and workshops both in the Rio Grande and across the state. They become a part of “The Water Story” series that will be a part of the basin website and upload to the CWCB website.



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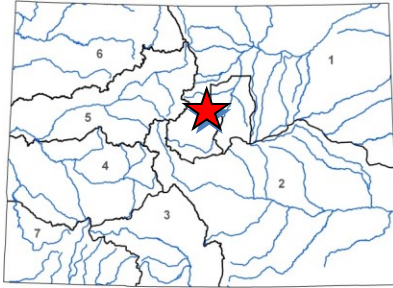
Department of Natural Resources

## Water in the West Exhibit Denver Botanic Gardens

September 2017 Board Meeting

Initial Consideration

### Water Plan Grant Application



#### L O C A T I O N

County/Countries: Denver & beyond

Drainage Basin: Metro/South Platte

#### D E T A I L S

Total Project Cost:	\$94,750
Water Plan Grant Request:	\$44,750
Other CWCB Funding:	\$0
Applicant Match:	\$50,000
Project Type(s):	Education & Outreach
Project Category(Categories):	Engagement & Innovation
Measurable Result:	reach to more than 1.2 million visitors (2016)

Denver Botanic Gardens, one of the most visited gardens in North America, welcomed more than 1.2 million people in 2016 (York Street, Chatfield Farms, Mount Goliath locations). This included 34,000 school children, 6,000 from low-income schools benefiting from access funding.

Denver Botanic Gardens requests funds to support development and implementation of a new, comprehensive exhibition within its Science Pyramid venue to educate Coloradans and visitors to the state about water in the West, highlighting Colorado's water issues and needs for conservation, reuse, and preservation/enhancement of natural environments. The exhibition visitor engagement opportunities will reinforce the many ways in which people, land, and the broader natural environment are connected. The digital learning space offers an ideal forum for discovery and presents multiple ways for participants to understand how water, through its presence or absence, affects people, plants, and animals in all of Colorado's life zones, from steppe to alpine. The Gardens will include new methods for data visualization to illustrate impacts of water scarcity and educate about best practices for stewardship. Elements within the new exhibition will include: large-scale environmental graphics; sound; a projection program on a globe display demonstrating variability in precipitation in geographic regions, as well as waterway connections and drought; video/animation; interactives with messages centered on soil, water, plants, animals; data visualization of user-generated content gathered both on- and off-site to create a platform for citizen science, and weather through precipitation monitoring or the sharing of water usage data.

This project supports the multi-layered goals of the CWP especially Education and Outreach as noted below:

CWP, Section 9.5 (pg. 9-59) Topics including: 1) Colorado's water challenges, solutions, and the need to be adaptable to changing conditions, 2) Connection between climate change and water, 3) Water conservation and reuse, 4) Integration of land use and water supply, 5) Education and outreach to support environmental and watershed strategies, such as those designed to protect imperiled warmwater fish species and forest health.

South Platte Basin Implementation Plan: S.5.2 (pg. S-12) - Maintain leadership in conservation and reuse and implement additional measures to reduce water consumption rates & S.5.9 (pg. S-15) - Facilitate effective South Platte communications and outreach programs that complement the state's overall program, including "a strategic focus on communication and education with stakeholders, include water users" and more.

In addition, this project addresses the South Platte Basin Roundtable and Metro Roundtable Education Action Plan 2016-2018 as noted in Educational Priorities & Implementation: a focus on educating and engaging the public, decision-makers and elected officials on the scope and purpose of the BIP and the State Water Plan, with an overarching theme of focusing on solutions-oriented water supply planning (pg. 3 of 9).



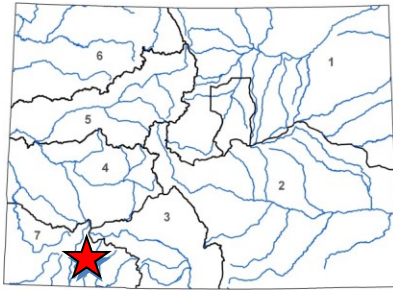
**COLORADO**

Colorado Water  
Conservation Board  
Department of Natural Resources

## Community Garden and Innovation Greenhouses Geothermal Greenhouse Partnership

September 2017 Board Meeting  
Initial Consideration

### Water Plan Grant Application



#### L O C A T I O N

County/Countries: Archuleta County

Drainage Basin: Southwest

#### D E T A I L S

Total Project Cost:	\$258,500
Water Plan Grant Request:	\$174,500
Other CWCB Funding:	\$0
Applicant Match:	\$84,000
Project Type(s):	Construction
Project Category(Categories):	Engagement & Innovation
Measurable Result:	efficiency savings & innovative water conservative food production edu and outreach

The Geothermal Greenhouse Partnership (GGP) is a collaborative group of community members and organizations who since 2009 have been focused on: 1) using our abundant geothermal and solar resources to grow food year-round for consumption and sale, 2) teaching the principles of sustainable agriculture and the use of renewable energy resources to the community, 3) engaging the community in the 21<sup>st</sup> century agricultural challenge involving the intersection and future of water, food and renewable energy.

CWCB funding will be used to construct and build-out the Community and Innovation Domes and outside gardens, facilitating the following community outreach and education and innovation activities:

#### The Community Dome

Inquiries have come from diverse organizations seeking to know how they might be involved in our project. Thus was born the idea of giving community organizations growing space to fulfill their specific goals simultaneously achieving our own goal, growing food and community with local energy, anchored in water conservation principles. A small sampling of interested groups include Vets for Vets (providing constructive and instructive activities); the Sheriff's Office (providing training/constructive activities); Victim's Assistance (providing food and a healing experience). These groups working together in the greenhouse, will advance their interests in the community and reap the potential benefits of collaboration and cooperation. Most importantly to our mission, they will be reaching populations of the community that are most in need of and least available, with lessons in sustainability. An understanding of conservation of Colorado's water in the 21<sup>st</sup> century will be embedded in the many experiences offered in the Dome.

#### The Innovation Dome

The Innovation Dome will be an aquaponic growing environment, demonstrating high yields of food and extreme water conservation. While all greenhouse growing saves water, a closed loop aquaponic greenhouse conserves over 90% of the water consumed in conventional soil growing. Aquaponics is a growing technique involving raising both fish and vegetables in a closed loop system. The Innovation Greenhouse will provide an ongoing income stream to the nonprofit. The produce will be sold to local restaurants and markets. Workshops in 21<sup>st</sup> Century Sustainable Agriculture will draw locals and outsiders to Pagosa Springs to study these proven water-conservative growing techniques. The Innovation Dome will be open to the public for learning opportunities only a day or two each month. Clear windows will allow observation from the outside. Bio-security and safe food practices will be of paramount importance. The GGP Park in Pagosa Springs will become a touchstone for learning about the intersection and future of water, food and renewable energy.

The goal of this GGP project is to teach about the nexus of water conservation, sustainable agriculture and renewable energy in the 21<sup>st</sup> Century. The GGP will demonstrate the viability of these concepts in 3 growing dome greenhouses. Three themes define the purposes of the 3 greenhouses: Education, Community and Innovation.





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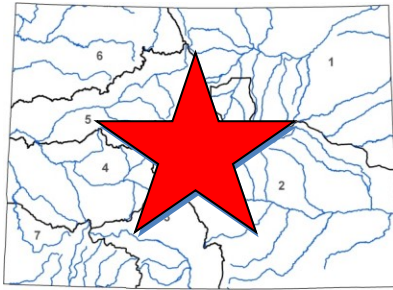
**TAP-IN**

**Open Water Foundation**

September 2017 Board Meeting

Initial Consideration

## Water Plan Grant Application



### L O C A T I O N

County/Countries: statewide

### D E T A I L S

Total Project Cost:	\$64,000
Water Plan Grant Request:	\$54,000
Other CWCB Funding:	\$0
Applicant Match:	\$10,000
Project Type(s):	Education/outreach/innovation
Project Category(Categories):	Engagement & Innovation
Measurable Result:	# Coloradans engaged, #connections in innov ecosystem made, #challenges presented

TAP-IN is the first of its kind water reverse pitch innovation challenge in Colorado, and was born out of Colorado's Water Plan. One of the goals of this Engagement and Innovation Water Plan Grant fund is to support water innovation. TAP-IN achieves this goal, and many other goals of Colorado's Water Plan (CWP), through the development of a strong water innovation ecosystem/hub by connecting people to people and to resources to solve problems. Prior to TAP-IN, there was no structure in Colorado to bring actual innovators and entrepreneurs together with water end users. They were disconnected and unaware of each other's challenges, work, and ideas. They didn't know how to access the other, so our state was missing an opportunity to capitalize on these inventive, resourceful minds that could be brought together to innovate.

TAP-IN is creating this water innovation hub through community dialogue events, reverse pitch challenges, public engagement, network-building of water and non-water stakeholders across sectors, and innovation education. The ultimate goal is to develop solutions to real world, water-related problems, such as a technology, design, product, platform, process, application, or service need/challenge. Solving these problems will help our state meet the growing demand from population growth and address stresses on supply.

The CWCB grant funding will be used to support TAP-IN's programs in 2018. These programs include a water-focused Trout Tank Pitch Accelerator in partnership with the Denver Metro Chamber of Commerce, Denver Water, and Colorado State University; two reverse pitch events; a water investment/financing training and dialogue event; and a water innovation symposium and solutions showcase. This funding will help support marketing, communications, and outreach for each program/event, as well as data collection to measure success/impact and improve future offerings.

TAP-IN is the initiative CWP called for under the 3rd action in Chapter 9.5: "The CWCB will work with stakeholders to identify five water challenges that Colorado's innovation community could help solve, develop an award program, and engage Coloradans in the challenge" and "will work with Colorado's innovation community, education and outreach experts, research institutions, and the governor's Colorado Innovation Network (COIN) to address Colorado's water challenges with innovation and outside the box creativity" (pg. 9-61).

As of the August 1 deadline, TAP-IN's programs drew 180 Coloradans; many of these were not the "usual suspects" in water, but those in the entrepreneurial, innovation, business, academic, and foundation community. Further, TAP-IN connected with over 1,000 Coloradans through its outreach (social media, engagement partners, newsletter, and blog). TAP-IN officially has 20 statewide partners, but there are many other organizations that contribute time, resources, and guidance to help make it successful. In addition, TAP-IN presented six challenges to the innovation community, with 12 more planned for the year through the next two reverse pitch events, so it exceeded CWP's goal of 5 challenges by 2030.

Many partners have contributed hours of time and over \$10,000 in in-kind resources, as of August 1.



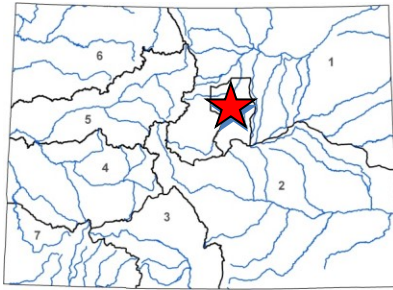
COLORADO

Colorado Water  
Conservation Board  
Department of Natural Resources

## WaterWise Circa 2018: Water Theatre Company One World One Water Center, MSU Denver

September 2017 Board Meeting  
Initial Consideration

### Water Plan Grant Application



#### L O C A T I O N

County/Countries: Denver, Boulder,  
Arapahoe

Drainage basin: Metro/South Platte

#### D E T A I L S

Total Project Cost:	\$15,725
Water Plan Grant Request:	\$10,255
Other CWCB Funding:	\$0
In-kind match:	\$2,500
Applicant Match:	\$3,000
Project Type(s):	Education & outreach
Project Category(Categories):	Engagement & Innovation
Measurable Result:	Provides education on Colorado water supply and water conservation behaviors to 3,000 students

In 2014, the One World One Water Center at Metropolitan State University (MSU) of Denver, the Theatre Department at MSU Denver, Aurora Water, the City of Boulder and Denver Water partnered to create and implement a theatre water course at MSU Denver that explored the topic of water in Colorado. In addition to ensemble performance skills, MSU Denver students in this course learned about current Colorado water issues and water supply concepts and created a 20-minute ensemble performance about water. Performances of the project were done at multiple venues for 5th and 6th graders. In 2016 and 2017 the group continued as a professional theatre company and performed their WaterWise show at three water festivals and at the Colorado Water Congress Conference in January 2017.

The overall goal of the WaterWise Circa 2018 Theatre Company project is to continue to use theatre for social change to provide creative, impactful, memorable water education for 5th and 6th grade students in Colorado.

Audience reactions to the performances have been overwhelmingly positive and the project received the "2015 Innovation in Environmental Education" award from the Colorado Alliance for Environmental Education. Grant funding from the CWCB would allow this program to continue in 2018 helping us reach over 3,000 additional students with performances at the Aurora, Boulder and Denver Water Festivals.

Colorado's Water Plan identifies the OWOW Center at MSU Denver as a group leading campus communities on water supply planning, research, dialogue, and education. Bringing together water providers in the Denver metro area allows for unique opportunities to spearhead programs that will incorporate Colorado's Water Plan priorities and campus educational outreach goals.

The Basin Implementation Plans described a list of goals including to "identify the necessary institutional changes, and the related cultural and economic adaptations in Colorado lifestyle, to address increasing water demands." Theater is an excellent way to reach and engage 5th & 6th grade students, their teachers and parents, to become more aware of water conservation and stewardship needs in our state.

The Colorado Basin Roundtable Education Action Plan includes a goal to "enhance water education opportunities in higher education." This project will directly fulfill the Roundtable's goal since 50 percent of the water used in the Metro Denver region originates in the Colorado River Basin.

The 2018 budget for the project includes performance preparation and re-familiarization with Colorado water issues and three performances at water festivals in 2018.