

9.5

OUTREACH, EDUCATION AND PUBLIC ENGAGEMENT

GOAL

Colorado’s Water Plan provides technical and financial assistance for high-quality, balanced, and grassroots water education and outreach efforts that inform Coloradans about the issues so that they may engage in determining Colorado’s water future.

To achieve a sustainable water future, Coloradans must be sophisticated water users. Colorado’s Water Plan expands outreach and education efforts that engage the public and promote well-informed community discourse regarding balanced water solutions. The plan addresses a number of topics that benefit water consumers, including increased conservation, reuse, preservation and enhancement of the natural environment, multi-purpose water projects, and other efforts to meet our state’s future water supply gap. Section 9.5 focuses on the extensive work that occurred to help educate and engage over 30,000 local stakeholders and the public in the formation of BIPs and Colorado’s Water Plan. Moreover, this section charts a path to expand this work in the future.

Coloradans are paying more attention to water issues today, and are becoming increasingly aware of the limitations of Colorado’s water supply. In a recent survey, more than two-thirds of those polled believe that Colorado does not have enough water for the next 40 years.⁸¹ Despite concerns, most Coloradans are unaware of the main uses of water in the state, and are uncertain about how to best meet our state’s future water needs.⁸²

Outreach creates public awareness of policies and processes, whereas **education** promotes a deeper understanding of these topics. Both are prerequisites to **public engagement**.

Natural disasters—including more than a decade of systemic drought, catastrophic wildfires in 2012 and 2013, and flooding on the Front Range in 2013—have increased the public’s sense of urgency and its desire to get involved in water issues. Outreach, education, and public engagement help ensure that Coloradans have access to accurate information and are empowered to participate in stakeholder decision-making processes.

The development of Colorado’s Water Plan is a unique opportunity to build on past efforts. In conjunction with the CWCB’s recent statewide outreach and education, over the past 10 years, the nine basin roundtables held more than 1,000 meetings to engage the public, and each roundtable held additional public meetings as it developed its BIP. Additionally, many water providers, watershed groups, schools, districts, and authorities offer many ongoing water education activities. Currently, several nonprofits are solely dedicated to water education, and water providers are working with school districts to engage younger generations in smart water use. This section of Colorado’s Water Plan offers recommendations and strategies designed to continue to advance these outreach, education, and public engagement efforts and enhance the overall water supply planning process.

Overview of Outreach, Education, and Public Engagement

Colorado has a long history of water education. As early as the 1800s, explorers on the Pike Expedition and the Long Expedition shared their experiences in the Colorado region and warned westward settlers of the limited water supply.⁸³ Following John Wesley Powell’s historic 1869 journey down the Colorado River, Powell brought his concerns about water supply “west of the hundredth meridian” to Congress.⁸⁴ Now, more than 150 years later, water education is evolving to meet the needs of a population whose direct interactions with water resources and supply are very different than in the past.

Previous and Ongoing Efforts and Research

In 2002, the General Assembly created the Colorado Foundation for Water Education (CFWE) to promote a better understanding of Colorado's water resources and issues. The CFWE is a nonpartisan, nonprofit organization that provides, "basic water information and educational programming, but also enhances leadership among water professionals, creates networking opportunities, helps advance the water planning dialogue in the state, and reaches out to those who aren't already involved in the world of Colorado water."⁸⁵

The Public Education, Participation, and Outreach (PEPO) Workgroup was established in 2005 through the *Colorado Water for the 21st Century Act* to support the IBCC process. The PEPO Workgroup, comprising IBCC representatives, education liaisons from each basin roundtable, and other key stakeholders in the water education community, operates by basin. It informs, involves, and educates the public about the activities and negotiations of the IBCC and basin roundtables.⁸⁶ In addition, the workgroup is tasked with creating a mechanism for providing public input to IBCC and roundtable members. With the CWCB's direction and funding, the CFWE facilitated the PEPO Workgroup from 2008 to 2015. In July 2015, the CWCB started managing the PEPO Workgroup directly.

Led and funded by the CWCB, several PEPO Workgroup members and the Colorado Watershed Network joined forces with the Colorado Alliance for Environmental Education and other water outreach specialists in 2008 to form a group called the Water Education Task Force. The task force sought to better understand the status of water education in Colorado, and published a report containing recommendations for improvements in water education in Colorado. These recommendations include:

1. Support a statewide public education initiative.
2. Develop information and communication tools that can be used statewide.
3. Establish long-term funding for intrastate and interstate collaboration opportunities.
4. Coordinate efforts across state agencies.
5. Increase coordination with the Colorado Department of Education on K-12 water resource content.⁸⁷

MARSHA DAUGHENBAUGH

YAMPA/WHITE/GREEN RIVER BASIN

Marsha is the Executive Director of the Community Agricultural Alliance and plays a critical role in coordinating the education and outreach efforts of the Yampa-White-Green Basin Roundtable. Marsha is pictured with horses on her ranch.

I hope there will be enough water supply for the future! Conservation and efficient use of water are mandatory. Understanding the future is everyone's responsibility. We can no longer allow ourselves the luxury of wasting either our water or our time. The process leading to the development of Colorado's Water Plan has been phenomenal and I have great respect for everyone involved. The discussions have not always been easy but they are necessary that agriculture will be respected and revered for...

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PROFILE





The CFWE assumed management of the Water Education Task Force following publication of the report in 2008. It established a partnership workshop that implemented several recommendations through the Colorado Water 2012 campaign, which celebrated water—past, present, and future. The Colorado Water 2012 campaign leveraged hundreds of passionate volunteers, nonprofits, and other organizations to raise awareness about water, increase support for the management and protection of Colorado’s water, showcase exemplary models of cooperation and collaboration, connect Coloradans to their water, and motivate them to participate in planning the future of their water resources.⁸⁸ The group commented on the Colorado Department of Education’s revision of state content standards, developed a teacher training program, and set the stage for the Value of Water project, which the CWCB commissioned. That project consisted of a statewide survey and report of public opinions, attitudes, and awareness regarding water in Colorado.⁸⁹

Numerous efforts are addressing public engagement in Colorado’s water supply issues; below are just a few examples. As the CWCB finalized Colorado’s Water Plan and as the plan is implemented, the groups listed below (in addition to other groups not included here), have served or will serve as critical resources in implementing the outreach, education, and public engagement actions the plan identifies.

State Agencies: Many Colorado state agencies conduct water education. These agencies also offer funding for outreach and education efforts, and have developed their own programs.

- ❖ The WQCD, an agency of the CDPHE, funds outreach efforts to improve water quality through Section 319 of the Clean Water Act of 1972.
- ❖ CPW has many education programs that focus on engaging youth in water issues. The agency funds the Colorado River Watch program in partnership with the Colorado Watershed Assembly, which supports student volunteers who collect data on water quality and watershed health throughout the state.⁹⁰ CPW also supports Project WILD, which engages students in environmental education and conservation.⁹¹
- ❖ The CWCB funds and coordinates stakeholder outreach through the basin roundtable process. The CWCB provides education funding through the WEGP for water conservation projects and the WSRA grant program, and also helps to fund the CFWE. In 2013, the CWCB hired an outreach, education, and public engagement specialist to manage these efforts.

Statewide NGOs: Several nonprofit organizations with a statewide reach have water education programs. These groups have specific target audiences and distinct objectives related to water supply planning. These objectives are that:

- ❖ The CFWE is a source of balanced water education for all Coloradans.
- ❖ The Colorado Water Congress provides leadership on key water resource issues and is the principal voice of Colorado's water community.
- ❖ The Colorado Watershed Assembly collaborates with diverse stakeholders to protect and improve the conservation values of land, water, and other natural resources of Colorado's watersheds.
- ❖ The Colorado WaterWise Council provides resources to stakeholders in the water efficiency and conservation community.
- ❖ The Colorado Foundation for Agriculture provides Colorado educators with current information about state agriculture and natural resources.
- ❖ Many membership-based environmental and recreational NGOs, such as Conservation Colorado, Trout Unlimited, Audubon Society, The Nature Conservancy, and Western Resource Advocates provide outreach and education to their members on many environmental issues. (This list is not fully inclusive.)

Universities: Several institutions of higher education are actively involved in water supply planning, research, dialogue, and education.

- ❖ The Colorado Water Institute and the Colorado Climate Center at Colorado State University, Western State Colorado University, the One World One Water Center at Metropolitan State University of Denver, and the Water Center at Colorado Mesa University are all engaging students, faculty, and the greater community in water issues.
- ❖ The Water Center at Colorado Mesa University assisted the Colorado and Gunnison Basin Roundtables in outreach and educational efforts.

Regional and Local: Many of Colorado's conservancy and conservation districts, water providers, and water utilities operate public outreach and education programs to inform and educate a variety of audiences—including customers, news media, and elected officials—about water supplies, conservation, drought, regulations, rebates, watershed protection, capital improvement projects, water quality testing, and many other important local issues.

- ❖ Denver Water has developed a successful water conservation and public education program that encourages reduction in daily water use through behavior change and permanent-fixtured and landscape retrofits. Denver Water uses community-based social marketing and media in addition to more traditional campaign methods such as advertising.
- ❖ Colorado Springs Utilities currently reaches over 5,000 adults through xeriscape classes, water system tours, business partnerships, and landscape efficiency training programs.
- ❖ The City of Grand Junction, Ute Water Conservancy District, and Clifton Water District collaboratively run a conservation-based outreach program known as the Drought Response Information Project. This project helps water providers conduct public outreach and education activities about drought and the Drought Response Plan.
- ❖ The Rio Grande Watershed Conservation and Education Initiative provides conservation education to the San Luis Valley community to promote stewardship of natural resources.
- ❖ The Roaring Fork Conservancy brings people together to protect rivers through watershed action and education in their respective areas of the Colorado River Basin.
- ❖ The Water Information Program is sponsored by water districts and agencies in the Dolores/San Juan River Basin and provides general information to the public on water topics. The Water Information Program assisted the Southwest Basin Roundtable in educating the region about local and statewide water issues, and is the longest-standing program of its kind.

- ❖ The Rio Grande Watershed Conservation and Education Initiative assisted the Rio Grande Basin roundtable in its engagement efforts, in addition to many other education programs.
- ❖ Aurora Water's Water Conservation Program offers its customers web-based instructional material and in-person classes in xeriscape landscaping, irrigation systems, landscape maintenance, alternatives to turf grass, and vegetable gardening.
- ❖ The Community Agriculture Alliance, a nonprofit organization in Steamboat Springs that promotes agriculture, assisted the Yampa/White/Green Basin Roundtable with public education and outreach on the BIP throughout the basin.

K-12 Education: Water providers across the state administer several K-12 programs. All of these programs use education and outreach to help address specific water supply issues, many of them aimed at educating the public on how to reduce municipal and agricultural water use. Other numerous water conservancy district efforts reach thousands of students each year at children's water festivals and special initiatives within area school districts. Below are a few examples:

- ❖ The South Metro Water Supply Authority's Water Ambassador Program trains high school students to teach fifth-graders about watershed health.
- ❖ Aurora Water reaches more than 6,000 students per year with K-12 education programs that provide classroom presentations, assemblies, and field trips.
- ❖ Boulder and Aurora school districts partner with the USFS to train teachers on water education through the "Forests to Faucets" workshops.
- ❖ Project WET (Water Education for Teachers) is a national program that trains Colorado teachers how to educate their students about water. Several local organizations sponsor Project WET trainings throughout Colorado, and the national program has developed curriculum that is specifically applicable to different regions in Colorado.

- ❖ Ute Water coordinates the state's largest children's water festival, reaching over 2500 fifth-graders in the Grand Junction area each year.

Funding Outreach, Education, and Public Engagement Activities

FIGURE 9.5-1

CWCB EDUCATION FUNDS USED PER FISCAL YEAR

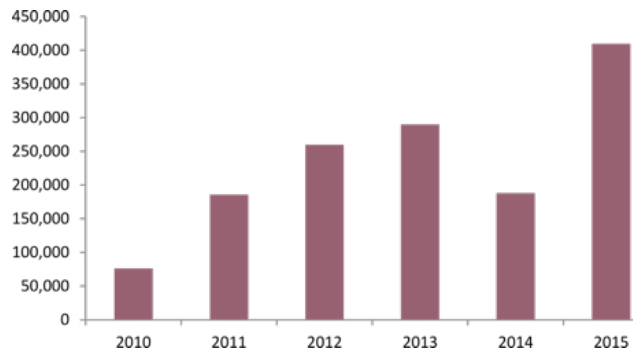


Figure 9.5-1 includes the total amount of CWCB funds allocated for education, including PEPO funds, education action plan funds, WSRA funds for educational projects (not including BIP contract funds), WEGP Public Education and Outreach Grants, and annual funds given to the CFWE. The chart does not include outreach and education funds consultants use for BIPs.

Despite the immense efforts of various organizations, projects, and partnerships, existing programs need to improve coordination to maximize their effectiveness. Collaboration creates new opportunities for water education, outreach, and public engagement activities to reach new and diverse audience groups statewide. Moreover, there is a need to reassess existing statewide programs that focus on water supply requirements and solutions. To address these needs, the Water Plan builds upon efforts such as the Colorado WaterWise Education Toolkit, the Colorado Watershed Assembly Network, and the CFWE's ongoing Water Educator Network. Additionally, a collaborative working group, led by CWCB, should update the 2008 Water Education Task Force Report recommendations in the near future; this will allow the community to determine which unmet needs exist and identify the most effective strategies to address them.

The Funding Gap

During the development of Colorado's Water Plan and the BIPs, it became clear that the \$2,000 in funding available to each roundtable could not fully support and sustain educational programs. To meet each basin's

unique outreach and education goals, the roundtables leveraged a creative mix of resources, including WSRA grants and work performed by their consultants. The basins also relied on partnerships with the CWCB, the PEPO education liaisons, the roundtable education committees, and the BIP consultant teams to plan and execute public engagement. Figure 9.5-1 illustrates CWCB funds allocated to education and outreach through the PEPO Workgroup, the basin education action plans, the WEGP Public Education and Outreach grants, the annual allocation from CWCB to CFWE, and related WSRA grants.

State funding for the roundtables is not sufficient for the level of outreach roundtables need in order to succeed. On average, costs for outreach activities have amounted to between \$15,000 and \$50,000 per roundtable over the past year—and most roundtables have indicated that given their level of current BIP outreach, this amount is insufficient. The Rio Grande Basin Roundtable spent an additional \$40,000 on outreach beyond what was originally planned in 2014, and estimated that with increased funding, it could spend at least an additional \$10,000 for activities outlined in its 2015 education action plan alone.⁹² Without securing this additional funding from state and local sources, implementation of the long-range education action plan activities may not occur, and education and outreach cannot sustainably rely on a dedicated volunteer base alone—although using a volunteer base has been the approach of many basin roundtables over the past five years. For example, volunteers organized and ran all 17 of the Arkansas Basin Roundtable’s outreach meetings.⁹³ Impressively, despite insufficient funds, each roundtable increased its outreach activities.

In the future, the roundtables may struggle to maintain these levels of outreach due to a few factors. First, they will not likely be able to rely on assistance from the BIP consultants. Additionally, WSRA funds were not intended to fund many types of educational projects, and several restrictions are placed on the types of educational programs that are eligible. Therefore, despite the prevalence of planned programming related to outreach, education, and public engagement, many potential projects do not have sufficient funding support to move forward.

Furthermore, the Water Education Task Force report stated that the annual amount of revenue for water education across the state was \$7.3 million, and

survey respondents indicated that \$1.6 million of that amount came from state sources.⁹⁴ Respondents cited monetary and time limitations as the largest barriers to implementing education programs; more than half of the water education providers surveyed indicated that they conduct water education for less than \$5,000 annually. The report also stated that the reality of limited resources should provide an additional incentive and focus for federal and state funding agencies.⁹⁵ Should funding become available, the State should allocate some of it to basin roundtable work, as well as other important efforts.

With completion of the BIPs and Colorado’s Water Plan in 2015, it will be imperative that the Colorado water community sustain momentum for outreach and education activities, and that funding for such activities increase as the community implements water supply solutions.

The CWCB’s Role in Water Outreach, Education, and Public Engagement

Outreach, education, and public engagement efforts during the development of Colorado’s Water Plan were unprecedented and built on a decade of stakeholder involvement. Between September 2013 and September 2015, the CWCB received over 30,000 comments before it released the final plan in December 2015. Because Colorado’s Water Plan relies upon stakeholder engagement, it is critical to highlight the education and outreach efforts to date. Appendix F includes a summary of activities completed and input received during development of the plan. As the initiative was a grassroots effort, the appendix also outlines the high level of local and volunteer efforts to involve the public in the process.

Outreach, education, and public engagement related to the State’s water supply planning efforts, including Colorado’s Water Plan, the BIPs, and SWSI, are ongoing, iterative efforts. The CWCB needs to continue the leadership it demonstrated regarding outreach, education, and public engagement activities during the development of Colorado’s Water Plan by continuing to aid in research, coordinate efforts, and provide funding and guidance for water education projects statewide.

The CWCB, the PEPO Workgroup, and the basin roundtables will continue education and outreach activities for Colorado’s Water Plan and the BIPs throughout 2015 as implementation begins. In the long

term, the partnerships and communication channels these entities have developed over the past several years will be crucial for public outreach and education activities and for soliciting input for balanced solutions. Each BIP articulated long-term goals and strategies for cultivating a supportive and engaged citizenry. These are a few selections from basins across the state:

1. Identify milestones and changes in Colorado's Water Plan and the BIP process that need additional media coverage and public participation.
2. Identify the necessary institutional changes, and the related cultural and economic adaptations in Colorado lifestyle, to address increasing water demands.
3. Ensure a diverse and active basin roundtable membership, and provide communication tools to inform roundtable constituents and enable constituents to deliver meaningful feedback to the roundtables in return.
4. Maintain a steady presence throughout the basin via traditional, online, and social media.
5. Engage respected community leaders to champion the solutions the roundtables set forth in the BIPs.
6. 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.
7. Enhance coordination and financial support that enable watershed groups and other grassroots organizations to effectively engage the public and increase participation.
8. Develop leadership programs that enable college students to explore water careers through scholarships or training opportunities in water supply planning projects and processes.
9. Establish metrics to evaluate the success and effectiveness of statewide and basin-level communication and education programs, and modify strategies as needed.

The lack of financial support and professional resources is a large barrier to implementing these goals. To maintain the momentum of Colorado's Water Plan beyond 2015, outreach and education projects need a dedicated grant fund for information and communication tools that address Colorado's water challenges. While the basin roundtables serve

as key forums to address water supply issues through conversation and planning, the creation of a new fund will open up the opportunity for stakeholders interested in water outreach, education, and public engagement to help move important projects forward.

Through this new fund, and as recommended in the actions set forth at the end of this chapter, the CWCB should work with state, local, and federal partners to develop a water education and outreach strategy. Such a strategy should include, but is not limited to, the topics listed below as they relate to Colorado's Water Plan. The Colorado Water Plan explicitly mentions these topics; however, the CWCB will likely add other topics to the education and outreach strategy as it is developed:

- ❖ Colorado's Water Plan.
- ❖ Colorado's eight BIPs.
- ❖ 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.
- ❖ Water quality ("use a watershed approach for outreach and community engagement").
- ❖ Agricultural viability options, ATMs, education for farmers on available incentives for on-farm implementation of agricultural conservation measures, water sharing opportunities, and other tools available to growers.
- ❖ Education and outreach to support environmental and watershed strategies, such as those designed to protect imperiled warm-water fish species and forest health.
- ❖ Outreach to energy companies to encourage and promote the most water-efficient technologies for energy extraction.



ACTIONS

Based on the analysis this section presents, the CWCB makes the following recommendations, which will enhance Colorado's water outreach, education, and public engagement and advance the water supply planning process.

1. **Create a new outreach, education, and public engagement grant fund:** As part of the funding package Section 9.2 discusses, the DNR will evaluate a new outreach, education, and public engagement grant fund, which the CWCB would administer through the basin roundtables. Specific attributes of the grant fund could include the following:
 - ❖ Similar to WSRA funds, these funds could be available for eligible outreach, education, and public engagement projects that meet specific CWCB-developed criteria and guidelines that align with Colorado's Water Plan goals.
 - ❖ The funds could be considered for the proposed outreach, education, and public engagement projects already outlined in the BIPs and each basin roundtable's PEPO Education Action Plan.
 - ❖ Guidelines could prioritize grants dedicated to projects that assist the basin roundtables with communication, outreach, and public education efforts related to issues that Colorado's Water Plan or the BIPs addressed.
 - ❖ Guidelines could stress the importance of measuring success and targeting specific audiences and approaches, and could include other education and outreach best practices that lead to successful public engagement.

2. **Create a data-based water education plan:** Over the next two years, the CWCB will create a data-based water education plan by:
 - ❖ Conducting a survey to update the Water Education Task Force Report, which assessed water education programs across the state.
 - ❖ Determining critical gaps in water education, both geographically and topically.
 3. **Improve the use of existing state resources:** 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:
 - ◆ 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.
 - ❖ Will incorporate education and outreach components in the WSRA grant criteria and guidelines.
 - ❖ Will initiate efforts to improve coordination between state agencies on outreach and education activities. This will include the development of performance metrics and a database to track efforts.
 - ❖ Intends to foster continued engagement of the Water Education Task Force and use the network of existing water educators in a coordinated fashion to educate the various and diverse audiences in Colorado.
-