
9. Alignment of State Resources and Policies

Chapter 9 explores the mechanisms by which the State of Colorado can help implement the Basin Implementation Plans (BIPs) and address Colorado's critical water strategies discussed throughout Colorado's Water Plan. As described in Section 9.1, continuing to support the solid foundation of Colorado's prior appropriation system, interstate agreements and compacts, and retaining local control are all critical to keeping Colorado whole. These systems are flexible enough to move forward with the actions described throughout Colorado's Water Plan. Many of the strategies described in the plan and throughout the BIPs require additional or more coordinated funding. The imminent needs for project funding are described in Section 9.2 along with options for new and existing funding mechanisms necessary for meeting Colorado's water future. The State of Colorado holds numerous water rights, many of which are aimed at protecting the environment or for recreation. In addition, Colorado has purchased water rights in important multi-purpose projects to help with implementation of these water projects. Section 9.3 describes ways to improve coordination among state agencies who own water rights and describes an approach for acquiring new water rights that more strategically addresses the state's Water Values. Many of the projects and methods described in the plan will require permitting, and if the state of Colorado is to be adaptive in its approach to water management, the permitting process needs to be as effective and efficient as possible. Section 9.4 discusses emerging concepts for a more efficient permitting process. Lastly, an educated public is necessary to continue to engage Colorado stakeholders in developing grassroots solutions and moving them forward. However, few resources are available to meet this important need. Section 9.5 discusses the unprecedented educational effort initiated to build the first draft of Colorado's Water Plan and envisions how education and outreach efforts can be implemented in a more sustainable and robust fashion. Together, these state actions will help Colorado implement the water strategies described in Chapters 6 through 8.

9.1 Protecting Colorado's Compacts and Upholding Colorado Water Law

Colorado's Water Plan upholds Colorado's water law system, interstate water compacts and equitable apportionment decrees, and local control structures. Colorado will focus planning efforts on maintaining healthy systems and avoiding a Colorado River Compact deficit, rather than focusing on the state's response to a compact curtailment.

As described in Chapter 2.1, Colorado has an intricate legal and institutional framework. The institutional setting is the starting point for all other conversations regarding Colorado's water future. Colorado's Water Plan recognizes the prior appropriation doctrine as the foundation of Colorado's water law system and it respects the importance of Colorado's interstate water compacts and other interstate agreements. This plan maintains Colorado's water allocations by respecting the designated roles of the State of Colorado and the federal government regarding

water management within Colorado. Colorado's Water Plan continues to support state-based solutions to needs identified by federal agencies, which best balance water needs in Colorado, and to ensure that water rights for environmental purposes can be appropriately administered within Colorado's water law. These state and federal partnerships have been successful in several instances and are described in more detail below. This plan also recognizes Colorado's history of local control regarding water development. This plan will continue to uphold Colorado's commitment to supporting tribal water settlements with the Ute Mountain Ute and Southern Ute Tribes. This section reaffirms Colorado's commitment to these fundamental tenets while advancing strategies for future water management.

The State of Colorado will continue to uphold the prior appropriation doctrine.

Colorado's prior appropriation doctrine is based on language within the State's Constitution. Over time, the prior appropriation doctrine has proven to be remarkably flexible. This flexibility was demonstrated by the recognition of new beneficial uses, such as environmental and recreational uses, under the law. The prior appropriation doctrine requires that water be put to beneficial use and requires efficient use to assure the greatest utilization of Colorado's water resources.¹ These concepts are ever evolving and will need to adjust appropriately. While the prior appropriation doctrine is affirmed by Colorado's Water Plan, there is room for improving water management within this allocation system. Colorado's water court system has often been criticized for being cumbersome and expensive.² Several years ago, a report from the Water Court Committee of the Colorado Supreme Court to the Chief Justice made recommendations to improve the efficiency and cost effectiveness of the water court system. Most of these recommendations have been implemented. Nevertheless, the Water Court Committee should assess whether these changes have had the desired effect of making the water court system more efficient and cost effective. In addition, the standing committee should explore whether there are additional recommendations that could be made in the future.

The State of Colorado will continue to uphold Colorado's water entitlements under Colorado's compacts, equitable apportionment decrees, and other interstate agreements.

For almost a century, Colorado has led the development and protection of interstate water compacts as a method to allocate water on interstate streams and rivers. Colorado vigorously defended its water allocations when downstream states have alleged compact violations.³ Colorado has also been steadfast in defending water entitlements allocated to Colorado through equitable apportionment decrees.⁴ Colorado's Water Plan reaffirms Colorado's dedication to protecting its compact and decree entitlements. Colorado has a litigation account that is available to the Colorado Water Conservation Board and the Office of the Attorney General for Colorado's defense of its water resources.⁵ Importantly, this fund is available to: 1) support water users whose water supply yield is or may be diminished as a result of conditions imposed, or that may be imposed, including but not limited to by-pass flows by any agency of the United States on permits for existing or reconstructed water facilities located on federally owned lands; 2) oppose applications of a federal agency for an instream flow right that is not in compliance with Colorado; 3) protect Colorado's allocations of water from interstate streams; and 4) ensure the maximum beneficial use of water for present and future generations by addressing important questions of federal law.⁶ Colorado should continue to maintain a sufficient balance in this fund to assure that the State has adequate

resources to protect its water resources. In addition, Colorado should make every effort to comply with its compact and decree obligations. While interstate compacts have been a solid foundation upon which water allocation occurs, interstate compacts have also been flexible and are able to address issues in times of drought and other unforeseen circumstances.

In working to protect the state's valuable water resources, Colorado recognizes that federal agencies have a role in the management of federal lands and water resources within the state. It is important to balance and coordinate the different state and federal roles and responsibilities to remain consistent with their respective authorities and obligations. The Wild and Scenic Rivers Act and the Endangered Species Act are two federal statutes that could affect Colorado's ability to fully use its compact and decree entitlements. To avoid this, the State of Colorado is committed to working with federal agencies to ensure they implement their responsibilities in a way that respects Colorado's compact and decree entitlements and authorities to administer waters within the state. An example of such compromise exists within the Upper Colorado River Endangered Fish Recovery Program, which operates to help protect and recover endangered fish species while allowing water users to continue to develop the state's compact entitlements. The State of Colorado should continue to support such programs and explore ways to develop similar programs when appropriate. In addition, Colorado's Instream Flow Program is an effective tool used in the Upper Colorado River Wild and Scenic Rivers Act Management Plan. This Management Plan provides protection for flow related "Outstandingly Remarkable Values" associated with the Upper Colorado River, while respecting the need for water managers to have flexibility in the future. It should serve as a model for future endeavors in state and federal collaboration.

The State of Colorado will continue to assure the proper balance between the state and federal roles in Colorado's water law and water management system.

The State of Colorado has always vigorously defended Colorado's water allocation and management system. Recently, certain federal agencies' decisions and proposed actions called into question the balance in state and federal roles as they relate to water management within Colorado. Some recent examples include: the U.S. Forest Service (USFS) position on water rights associated with ski areas within Colorado; the USFS proposed groundwater directive; and, the Bureau of Land Management (BLM) Resource Management Plans, and USFS Management Plans. In the context of these areas and other federal water related issues, the State has had to grapple with federal assertions of authority to mandate bypass flows as a resource management tool. To the extent they interfere with and potentially undermine water rights as decreed and administered within the state, Colorado maintains that bypass flows should not be a preferred method for managing water on federal lands. Rather, before federal agencies seek to impose bypass flows as a resource management tool, they should work with the State to identify how such use will comport with the water rights administration under Colorado law. In these and other instances, Colorado is committed to ensuring that the federal and state roles in water management remain appropriately balanced.

The State of Colorado will continue to work within Colorado's local structure.

Local governments have considerable authority in making water development and management decisions. Colorado's counties and municipalities exercise a broad range of powers to address the needs of their constituents that are explicitly conferred to them by state law. The local control

structure within Colorado is discussed in more detail in Section 2.3 of Colorado's Water Plan. The range of local authorities includes broadly authorizing counties and municipalities to balance environmental protection with the need to provide for planned and orderly land use. Counties and municipalities have various tools at their disposal, including: creating special districts, requiring Master Plans for development, assessing impact fees to offset new development on existing infrastructure, and 1041 powers, which allow local governments to regulate construction or extensions of major new water and sewage treatment systems. The State of Colorado will work collaboratively with local governments within this existing framework and Colorado's Water Plan is a valuable tool for both levels of government in that work.

The State of Colorado will support strategies to maximize use of compact water while actively avoiding a Colorado River Compact deficit.

Basins using Colorado River System^a water emphasized the need for protection of existing uses, while proposing some increment of future development. All users of Colorado River System water have an interest in the security of Colorado's compact entitlement. Ongoing interstate discussions, such as the Colorado River drought contingency planning efforts being developed by the states of the Upper Division discussed in Chapter 2, will inevitably affect water management within Colorado. These efforts include: weather modification; extended reservoir operations (releasing water from upper Colorado River Storage Project reservoirs to protect critical reservoir elevations at Lake Powell); and managing demands to influence Lake Powell elevations. Hydrologic conditions in the face of climate change and increasing demands will require Colorado water users to creatively and collaboratively manage the resources at hand. These intrastate efforts, such as those addressed in Colorado's Water Plan, will be distinct from, but necessarily informed by, ongoing interstate processes and negotiations.

The Interbasin Compact Committee (IBCC) discussed the concept of a collaborative program to protect existing uses and some increment of future use statewide in early drafts of the *IBCC Conceptual Framework*. Moving forward, the IBCC placed the highest priority on working on a collaborative, programmatic approach to managing consumptive uses, with the end goal of avoiding a compact deficit. This programmatic approach would ideally involve water banking concepts, though at present this approach has not been sufficiently developed to provide full coverage for protected uses. While water banking may be an important part of the programmatic approach, it will likely be one piece of a multifaceted program.

This programmatic approach involves augmentation and storage management as initial tools, and demand management as a tool of last resort. Demand management efforts would be based on voluntary, temporary, and compensated reductions in eastern and western slope consumptive use. Under such an approach, willing water users will be temporarily compensated for voluntary reductions of consumptive use. Such reductions in use will be monitored and verified to assure benefit to the Colorado River System. Pre- and post- compact water rights, by definition, are subject

^a As defined in the Colorado River Compact of 1922: "that portion of the Colorado River and its tributaries within the United States of America."

to distinctive levels of risk in a compact curtailment situation. Though the purpose of a collaborative program would be to avoid curtailment entirely, it is important for program participants to recognize the potential differences in impacts to these different types of water rights in a curtailment.

Actions

The following actions will promote continued collaboration among the State of Colorado and federal, state, tribal, and local entities on interstate and intrastate water management issues. These actions seek to protect Colorado's compact entitlements while encouraging collaborative solutions to protect existing and future uses within the state.

A. The State will continue to uphold the prior appropriation doctrine.

1. The Colorado Water Conservation Board (CWCB) encourages ongoing efforts to make the water court system more efficient, such as the work of the Water Court Committee of the Colorado Supreme Court. These efforts seek to make the process more efficient and easily navigated, while maintaining the protection of these important private property rights.
2. The IBCC work on potential legislative solutions suggests that broad stakeholder input is necessary to garner support for process improvements to be achieved through the legislative process. The CWCB will explore potential avenues for broad input on improvements to the water court process, be it through the roundtable and the IBCC process or other mechanisms.

B. The State will continue to uphold Colorado's water entitlements under Colorado's compacts, equitable apportionment decrees, and other interstate agreements.

1. The CWCB will continue to maintain a sufficient balance in the litigation fund to assure that the State has adequate resources to protect its water resources.
2. The CWCB, with support from the Attorney General's Office and the Division of Water Resources, will continue to make every effort to comply with compact and decree obligations.
3. The CWCB, in concert with the Attorney General's Office, will continue to work with federal agencies to assure that their responsibilities are implemented in a way that respects Colorado's compact and decree entitlements and authorities to administer waters within the state.

C. The State will continue to assure the proper balance between the state and federal roles in Colorado's water law and water management system.

1. The CWCB and Attorney General's Office will remain involved in maintaining the balance of state and federal roles within Colorado. As federal procedures and policies are developed and implemented, the state will defend Colorado's water allocation and management system, to the extent that proposed federal actions may interfere with and potentially undermine water rights as decreed and administered within the state.

D. The State of Colorado will continue to work within Colorado's local structure.

1. In proposing innovative strategies to meet Colorado's existing and future water needs, the CWCB will continue to work collaboratively with local governments, recognizing the authority of the state's counties and municipalities in making water development and management decisions.

E. The State of Colorado will support strategies to maximize use of compact water while actively avoiding a Colorado River Compact deficit.

1. The CWCB will continue to support water banking efforts and prioritize the development of the programmatic approach as described over the next several years. This development will require extensive stakeholder participation and educational efforts statewide.
2. Future study and collaborative stakeholder input by the CWCB will gauge the potential for a programmatic approach to meet existing and future needs while maintaining equitable distribution of the reduced consumptive use. Multiple types of water use and locations on eastern and western slopes should share the burdens of demand management.
3. As the CWCB begins technical investigation of a potential collaborative program, a key issue to be resolved will be the potential scope of demand management: the greater the amount of existing uses to be covered by such a collaborative program, the greater the number of voluntary reductions and compensation that will be necessary.

9.2. Economics and Funding

Colorado's Water Plan coordinates existing funding sources and explores additional funding opportunities.

Introduction

Investing in the long-term sustainable supply and delivery of water is critical to Colorado's future. Even in robust economic times, the difficulties inherent in financing large, long-term and sustainable water projects can create community apprehension and political controversy.

Over the years, the CWCB has partnered with various water providers throughout Colorado to conserve, develop, and protect Colorado's water for future generations. The CWCB has provided funding through grants and loans for critical multi-purpose and multi-partner projects, such as the Chatfield Reallocation Project, the Animas-La Plata Project, the Rio Grande Cooperative Project, and the Elkhead Reservoir Enlargement Project. For these projects alone, the CWCB contributed over \$200 million. These projects supplied over 100,000 acre-feet of water to help water providers meet their water supply and storage needs, while also improving stream health, promoting shared uses, sustaining agriculture, and providing long-term recreational benefits.^b Financing long-term sustainable water supplies and infrastructure projects requires a collaborative effort involving

^b Chatfield Reallocation Project (\$62 million CWCB Investment - \$80 million Loans), Animas- La Plata Project (\$37 million Water Purchase) Rio Grande Cooperative Project (\$5 million Grant - \$15 million Loan/Grant), and Elkhead Enlargement Project (\$11 million)

water users and providers, as well as federal, state, and local entities. Colorado will need to secure funding to meet water demands in the long-term through a combination of constructive legislation, partnerships, and state and federal grant and loan programs. It is the CWCB's intent to promote, and potentially support financially and politically, projects that evaluate water supply, storage, and conservation efforts from a regional, multi-purpose, multi-partner, multi-benefit basis and projects that evaluate the consolidation of services where practical, feasible and acceptable. This section provides: 1) a description of existing financial need; 2) an overview of financial assistance programs; and 3) recommendations and suggested approaches to develop an integrated water infrastructure financing model that could assist in addressing Colorado's short and long-term water needs.

Statewide Water Infrastructure Financing Need

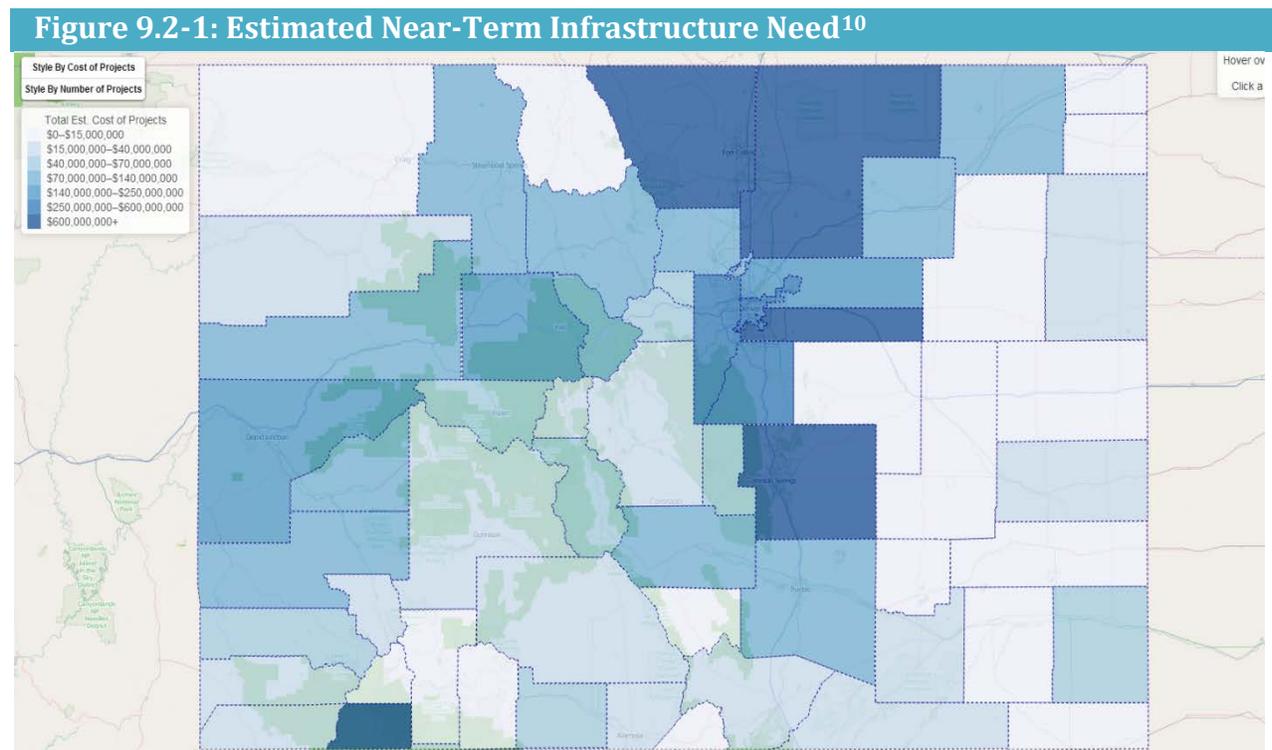
The BIPs for the major river basins within the state are a critical component of Colorado's Water Plan. In general, each BIP looked at balancing long-term municipal, industrial, agricultural, environmental, and recreational needs within the respective basins, and among basins. As part of the BIPs, the basin roundtables identified a list of projects and methods they believe address the long-term needs of their basin. An initial summary of the costs identified in the BIP's is included in Table 9.2-1. It needs to be emphasized that at this time the vast majority of projects identified did not have costs associated with them. In addition to these projects, the BIPs include other activities that require financial support including education, outreach, conservation programs, flow agreements, alternative agricultural transfer methods, important legal investigations, and programs that manage various risks and vulnerabilities throughout the state.

Table 9.2-1: Project Costs Identified in the Basin Implementation Plans*

Basin	Single purpose projects & methods			Multi-purpose projects	Total
	Env., rec., or water quality	Municipal & industrial	Agricultural		
Arkansas	\$30,000	\$20,000,000		\$65,000,000	\$85,000,000
Colorado	\$1,500,000	\$4,000,000		\$132,000,000	\$137,000,000
Gunnison	\$8,000,000	\$46,000,000	\$9,000,000	\$423,000,000	\$486,000,000
North Platte	<i>Forthcoming</i>	<i>Forthcoming</i>	<i>Forthcoming</i>	<i>Forthcoming</i>	<i>Forthcoming</i>
Rio Grande	<i>Forthcoming</i>	<i>Forthcoming</i>	\$80,000	\$130,000,000	\$131,000,000
South Platte / Metro	<i>Forthcoming</i>	<i>Forthcoming</i>	<i>Forthcoming</i>	<i>Forthcoming</i>	<i>Forthcoming</i>
Southwest	\$60,000,000	<i>Forthcoming</i>	<i>Forthcoming</i>	<i>Forthcoming</i>	\$60,000,000
Yampa/White/Green	\$5,000,000	<i>Forthcoming</i>	<i>Forthcoming</i>	<i>Forthcoming</i>	\$5,000,000
TOTAL	\$74,530,000	\$70,000,000	\$9,080,000	\$750,000,000	\$904,000,000
Percent of total	8%	8%	1%	83%	

* Most identified projects did not have associated costs. Therefore, additional cost estimating and refinement of existing project costs will be forthcoming to develop an overall statewide summary of water project funding needs. Costs were rounded to three significant figures.

The Statewide Water Supply Initiative (SWSI) estimated that between \$17 billion and \$19 billion will be needed for municipal and industrial water infrastructure improvements by 2050.^{7, c} In addition, approximately \$150,000 is needed per mile of stream for smaller scale river restoration work, but could cost \$240,000 or even \$500,000 per mile for substantial structural changes or channel reconfiguration.⁸ To better determine the amount of river restoration work and other similar types of work that may be required; up to 90 watershed or stream management plans are necessary at an estimated cost of \$18 million statewide.⁹ As basins and stakeholders identify their environmental and recreational needs, further projects and methods will need to be developed and funded to meet those needs. For planning purposes, however, one could estimate a \$2 billion to \$3 billion environmental and recreational statewide need or approximately 10 to 15 percent of the municipal and industrial water infrastructure cost estimates. Additionally, the long term funding to support the sustainability of agriculture will need to be developed based on further identification of projects and methods. Funding for agriculture should not only include legal and engineering support alternatives to reduce agricultural dry-up, but also water infrastructure to deliver water from agricultural areas to urban areas on a shared basis.



Further refinement and identification of water infrastructure financial needs through the BIP process will be required as we move forward. The CWCB will review the results of these efforts to develop a list of project priorities. The criteria for a priority project include funding, if it is

^c This number is based on an estimated \$14 billion to 16 billion of identified M&I needs calculated in the Portfolio and Trade-off tool (CWCB, 2011), plus an additional \$3 billion estimated need for maintaining existing M&I infrastructure. The numbers, however, are being refined based off the BIPs.

multiple-purpose, if it has multiple partners, or if it provides multiple benefits, and is regional in nature. The CWCB will identify projects that have the potential to move forward quickly, have cross-basin and statewide benefits, and have a possible funding plan. This is discussed further in Section 9.2.4.

Note that estimated overall funding needs of approximately \$20 billion is associated with meeting the municipal and industrial (M&I) gap and maintaining current infrastructure. Specifically, these funds would support:

1. The Identified Projects and Processes (IPP) identified in the SWSI,
2. Short and long term maintenance needs of existing water delivery systems,
3. Alternatives to agricultural transfers
4. Active water conservation.

Additionally, financial support is needed to address environment and recreational needs throughout the State and to support agricultural viability. Treated water projects, such as drinking water treatment and distribution as well as waste water treatment, is not included in this number.

Economics

When Colorado's land, labor, and capital combine with available water, the result is economic prosperity and opportunity. Managing water operations is challenging because of the wide variation in supply and demand. Water providers need to ensure the delivery of quality water to all customers as demand rises and falls at a cost that people can afford and are willing to pay. Water is also extremely mobile and by the nature of its physical properties can move around in streams, seep into soils, move underground, evaporate, be stored in reservoirs or even bottled and transported. The inherent consequence of mobility is that there can be many sequential uses from the same molecule of water since it is rarely consumed fully by a particular user and what is left is available for other uses. To expand even further, another critical feature of water is the overall variability of where it is located, the quality, quantity, and for what duration. Colorado is a perfect example of the mobility of water, given that 89 percent of its population resides east of the continental divide, yet 70 percent of the state's water supply originates west of the continental divide.¹¹

Water can be considered both a private and public good, which makes it difficult to assess its economic value. Water is capital-intensive when compared to other public utilities such as natural gas or electricity, given its weight, viscosity, and volume.¹² The public perceives water as an affordable, accessible, and continually available resource.¹³ On average, most families pay less than one percent of their household income for water, so they do not understand the true cost of water when compared to other living expenses, such a fuel, electricity, food, etc.^{14.} ^d Twelve ounces of bottled water at the store costs \$1.00, but tap water that is treated and delivered across Colorado to

^d Colorado average household income, 2008 to 2012 = \$58,224. Based on 9,000 gallon monthly household water use (108,000 gallons/yr.) and inside city limit use, Denver - \$35/month, Longmont - \$22.50/mo, and Ute Water Conservancy District - \$42.00 monthly billing rate. Average of three entities = \$33/month water bill.

a house costs approximately \$3.00 per one thousand gallons.¹⁵ This lack of awareness of the true cost of water could be either an issue with what the public is willing to pay or a learned response to the apparent low cost that consumers have historically paid for treated water delivered to their homes. With the current demand and future increased demands on water supplies, it is important to focus on education. Water users need to be aware of the true costs inherent in providing water.

State Funding Resources and Other Funding Opportunities

Current Funding Opportunities

Though the statewide funding needs for both the consumptive and non-consumptive water projects is substantial, a planned, phased approach with existing and potential alternate funding sources could address a majority, if not all of the state's needs, depending on how aggressive and successful the approach is. The State recognizes that water providers are in control of their own short- and long-term capital investments, operation and maintenance costs, and customer base. Therefore, use rates and tap fees could be the primary source of funding where the end user is directly connected with the costs and investment. There are opportunities, however, when broader public interests are in play, where combining financial resources and infrastructure can solve complex water supply challenges and accelerate the construction of a project. The Water Infrastructure and Supply Efficiency (WISE) Project is a perfect example where several entities, including South Metro Water Supply Authority members, Denver Water, Aurora, and the CWCB, shared infrastructure, water, and financing to provide critical renewable water to offset well usage in Douglas County.¹⁶

There are many existing State funding sources or programs that can assist in meeting the state's long-term water infrastructure needs. These include: the CWCB Water Project Loan Program, the CWCB's Water Supply Reserve Account (WSRA) Fund, the Species Conservation Trust Fund, Non-consumptive funding programs as identified in SWSI 2010 Non-consumptive Toolbox, and the Water Resources and Power Development Authority's (Authority) Water Revenue Bond Program (WRBP). Though these programs cannot solely meet the financial water needs of the state, they can assist in bridging funding gaps when combined with other funding sources.

The CWCB Water Project Loan Program

Recognizing the importance of funding raw water projects, the Colorado General Assembly, in 1971 created the Water Project Loan Program, which is comprised of two funds: the Construction Fund and the Severance Tax Trust Fund: codified at section 37-60-120 in the Colorado Revised Statutes.¹⁷ Annual revenues to the Construction Fund come from principal and interest (P&I) on existing loans and a portion of Federal Mineral Lease revenues that are paid to the State. Approximately \$18 million to \$20 million is available annually for water project loans from this fund.¹⁸ In addition to the Construction Fund, in 1995, the Severance Tax Trust Fund was created under section 39-29-109, which directs 25 percent of the State's severance tax revenues into this fund, which is currently capped at \$50 million annually.¹⁹ Annual severance tax revenues provided to the CWCB range from \$20 million to \$50 million.²⁰ A portion of available Severance Tax Trust Fund revenues could be directed to assist in meeting investment return obligations on impact bonds issued in support of environmental and recreation needs throughout the State.

The Water Project Loan Program has, on average, between \$50 million and \$60 million available annually for loans for various water projects throughout the state. The combined fund equity from the Construction Fund and Severance Tax Trust Fund exceeds \$700 million.²¹

Water Supply Reserve Account (WSRA)

This state grant program provides funding at the local basin level to address a variety of short- and long-term water needs. Current funding level is capped at \$10 million annually, which is split between the Statewide and Basin Accounts. Funding comes from annual severance tax revenues to the State, and has varied from \$5.7 million to \$10 million annually.²² This Program has distributed over \$40 million in grant funds to date for a variety of water related studies and projects.²³

The WSRA roundtables process has proven to be a grassroots platform for engaging local basin, regional, and cross-basin discussions on water issues. Continued support and additional funding should be considered to maintain and enhance this successful program. The existing process and structure of how the WSRA grant funds are distributed from the basin and statewide accounts should be re-evaluated to encourage multi-benefit and multi-partnering projects, and to promote planning and technical support to smaller communities and water providers. A collaborative, regional approach should always be encouraged and considered in the planning process for projects that are funded through this program.

Watershed Restoration Program

The CWCB's Watershed Restoration Program provides grants for watershed/stream restoration and flood mitigation projects throughout the State. Over the years it has leveraged substantial outside entity dollars to promote watershed health. It has had an annual funding allocation of \$250,000, but has recently seen a substantial increase in funding, because of legislation approved for phreatophyte control and flood and fire mitigation. The 2015 CWCB Projects Bill also approved an additional \$1 million in funding for this program to assist with funding stream management plans, as discussed in Section 6.6. If additional revenues sources were successfully developed to support environmental and recreational projects, this program could serve as the program to managed and disburse those funds.

Species Conservation Trust Fund

The Native Species Conservation Trust Fund was created in 1998, pursuant to HB98-1006. This fund is used by the CWCB and Colorado Parks and Wildlife (CPW) for programs associated with: recovering species listed as threatened and endangered under state law; recovering and protecting federal candidate species; conducting scientific studies related to the listing or delisting of any species; and evaluating genetic, habitat and declining species baseline data. The Species Conservation Trust Fund authorizes millions of dollars of work by the CWCB and CPW each year, and this authorization occurs through the annual Species Conservation Trust Fund legislation.

Water Resources and Power and Development Authority (Authority)

The Authority is a quasi-governmental organization created by section 37-95-101 in the Colorado Revised Statutes to provide low-cost financing for water and wastewater related infrastructure projects to municipalities and special districts. The Authority has four main financing programs: the

Drinking Water Revolving Fund, the Water Pollution Control Revolving Fund (WPCRF), the Small Hydropower Loan Program, and the Water Revenue Bond Program (WRBP).²⁴

The WRBP provides funds up to \$500 million for individual projects, without legislative review, to public entities for water and wastewater projects. The Authority's WRBP rates are consistent with private municipal bond market rates, with the distinction being that they provide bond issuance subsidies, up to a total of \$250,000, for each of up to four projects in any given year. Note that the WRBP can provide funding well above \$500 million with legislative approval.²⁵

The Drinking Water Revolving Fund and the WPCRF are both part of the State Revolving Funds, which are operated in every state. These funds are primarily used for water quality projects, and are capitalized by state and federal funds whereby states contribute 20 cents for every federal dollar. These funds are often used to leverage other funds through the issuance of municipal bonds.

The Small Hydropower Loan Program is a joint program operated in coordination with the CWCB. Loans from this program are limited to up to \$2 million per governmental agency, for eligible projects of five megawatts or less.²⁶ Agencies seeking more than the first \$2 million available through the Authority can apply through the CWCB.

Grant Programs

The CWCB also offers many grant programs for various water related efforts, such as water efficiency, alternatives to agricultural transfers, emergency drought response, phreatophyte control, and others. Annual combined funding for these various grant programs is in excess of \$4 million.²⁷ A list of these various grant programs can be found [here](#).

A list of federal, state and private funding opportunities for environmental and recreational needs can be found in the Nonconsumptive Toolbox.²⁸ The total amount of funds available from state resources that are dedicated to these efforts on an annual basis is approximately \$11 million.²⁹ Some of these funds are extremely competitive, while others are hard to qualify for, and are therefore not fully utilized.

There are currently limited funding sources available for education, outreach, environmental resources, recreation, and other important water related activities that do not involve construction of projects. Though these efforts have strong support from non-governmental organizations, they are typically funded through charitable donations, as opposed to tax revenue. Additionally, much of this type of work has been funded through the WSRA program, which requires approval by the basin roundtables and the CWCB. Therefore, it may be necessary to identify additional funding sources to fully meet the environmental and recreational water needs in the state.

CWCB Program Overview

Initial estimates suggest that municipalities will primarily need state, federal, or bond market loans to fund their projects. Over the next 35 years, based on current funding levels, the state expects to have nearly \$2 billion available in CWCB loans for municipal, industrial and agricultural projects.³⁰ Compared to the statewide water infrastructure financing needs discussed above, this amount suggests a potential public financing gap. To support innovative water projects, such as multi-use, alternative agricultural transfers, or a new transmountain diversion with a sufficient back-up

supply on the eastern slope, combined with substantial environmental and recreational enhancements that meet the criteria of the Interbasin Compact Committee (IBCC), consensus and additional state funds may be necessary. Environmental and recreational projects primarily rely on grants for financial support, since those projects are not typically ratepayer supported. Current capacity to fund environmental and recreational projects and methods over the next 35 years is \$385 million, based on current funding levels.³¹ This suggests that it may be difficult to fund projects that promote environmental and recreational interests. Beyond the CWCB loan programs, an additional \$490 million is available from the WSRA and another grant programs for meeting future needs.³²

Federal Funding Options

Federal funding options are also a potential source for meeting financial needs. For scientific and research-based projects, the Bureau of Reclamation's (BOR) WaterSMART program, managed through Landscape Conservation Cooperatives, has funded several programs throughout the region. For certain agricultural efficiency projects, the Colorado River Basin Salinity Control Forum has brought a substantial amount of federal funding to Colorado, aimed at improving the water quality of the Colorado River.

In addition, the Upper Colorado River Basin Fund is a federal fund comprised of funds appropriated from the U.S. Treasury for capital projects, as well as proceeds from the sale of hydroelectric power, transmission services and M&I water service sales. The Basin Fund is used to fund important work associated with the Salinity Control Forum, the Upper Colorado River Basin and San Juan River Basin Endangered Fish Recovery Implementation Programs, and the Glen Canyon Dam Adaptive Management Working Group. These programs are described throughout Colorado's Water Plan. In addition, in 2011, the Upper Division Colorado River Basin States (Colorado, Wyoming, Utah, and New Mexico), BOR, the United States Department of Energy Western Area Power Administration, and the Colorado River Energy Distributors Association signed a memorandum of agreement (MOA) that authorizes the use of the Basin Fund to further the purposes of the 1956 Colorado River Storage Project (CRSP) Act (Public Law 485) through fiscal year 2025. This MOA authorized additional uses for operational and maintenance on CRSP facilities, among other specified purposes, and provides more than \$5 million for the CWCB to direct toward CRSP operation and maintenance activities.

Potential Future Funding Opportunities

Many stakeholder efforts, such as the IBCC, environmental groups, and the recently created Statewide Water Investment Funding Committee, have explored other avenues of funding to meet Colorado's future water needs. The IBCC explored several financial options in the no-and-low-regrets Action Plan listed below:³³

- A federal/state partnership similar to the Central Arizona Project,
- A state water project similar to the California State Water Project,
- A state/local partnership in which the state facilitates the project, but the end-users finance and manage it,
- A public/private partnership similar to those used to build transportation projects (e.g., E 470),

- Enactment of a "water" mill levy (the assessed property tax rate used to raise revenue),
- Additional bonding authority for the State of Colorado,
- Severance tax increases,
- A statewide sales tax,
- Federal loan guarantees,
- Expanded authority of Great Outdoors Colorado funding,
- Specific Farm Bill initiatives that appropriate funds for enhancing agricultural operations while supporting nonconsumptive needs,
- Regional taxing,
- Statewide user fee,
- Statewide tax on internet-based transactions, and
- Debt financing (debt backed by existing or newly created revenue source).

In addition, The Nature Conservancy, Colorado Chapter and the Tamarisk Coalition also assessed funding sources for environmental needs.³⁴ When additional funding sources are needed, some potential investment opportunities are:

Productive Legislation – Water providers, the CWCB's recently created Statewide Water Investment Funding Committee, elected officials, and community leaders can work to develop productive legislation to create effective and efficient funding processes that will maximize the use of water within the state. Some specific examples that could be considered include:

- Removal of Federal Mineral Lease and Severance Tax Fund cap limits, which could generate an additional \$10 million per year.
- Increase the funding cap to the WSRA Grant Program account, currently limited to \$10 million per year. Adding an additional \$10 million could greatly assist in meeting environmental and recreational funding needs.
- Investigate extending instream flow tax credits for water rights donations to the instream flow program beyond 2015.³⁵
- Expand the CWCB's authority to improve the management and distribution of existing funds, enabling the CWCB to fund treated water facilities could alleviate gaps in funding raw water projects with treated components that are not funded by other sources.
- Investigate the use of Conservation Tax Credits as a potential funding source to support replacement of residential outdoor turf with plants that use less water and efficient outdoor irrigation systems.
- Amend governing statutes to water providers that provides them specific authority to use P3s.
- Explore broadening the statutory authority of the existing program to allow for the protection of watershed health, instream flow benefits, and alternative transfer methods to mitigate drying up agricultural lands.
- Return remaining \$123 million in General Fund transfers back to the Severance Tax Trust Fund. A total of \$163 million was transferred from the Construction Fund and Severance Tax Trust Fund to the General Fund to help balance the State's budget from 2008-2011. To

date, \$40 million has been returned.³⁶ These funds could be directed to various water projects, environmental and recreational projects, watershed and stream management, project management, and others.

Public-Private Partnerships (P3s) – Provide funding to create a State sponsored Center of Excellence, to research the pros and cons of P3s, and to develop a preliminary water infrastructure P3 model. The Center of Excellence would be a centralized clearing house for water providers or entities to talk with experts in the field and to obtain information on working P3 models. Based on their expertise, the basin roundtables, in association with the WSRA process, should assist with this discussion to provide guidance to project proponents on the potential value of P3s for specific project/s being considered.

In general, P3s have the potential to reduce both capital investment and risk, while drawing on the respective strengths inherent of both the public and private sectors. Nevertheless, care must be taken to achieve an appropriate balance among public and private resources, costs, control, and long-term revenue streams. Lessons can be learned from the transportation sector, which used public-private funding for a toll road, and factors such as social perception, the interaction of state and private contracting policies, ratepayer concerns, and long-term sustainability of the partnership highlight the challenges and opportunities faced by P3s. P3s can offer a considerable amount of working capital, which in certain circumstances, can accelerate the delivery of costly, technically complex projects.³⁷

State Repayment Guarantee Fund – For larger water projects that have many participating entities, it has proven difficult to develop an overall project financing package that equitably distributes risk and repayment. Smaller participating entities with lower credit ratings, minimal revenue streams and service areas, can create a disincentive for larger water providers to participate in a bundled financing package for the project, given they would be subjected to higher interest rates, repayment, and risk. To address this problem the State could develop a Repayment Guarantee Fund that would act as overall repayment guarantee to the financial entity that is issuing the bond for the project. This State managed repayment guarantee would reduce the level of risk to the lender and participating entities, while providing a mechanism for smaller water providers to participate in regional water distribution/supply projects, without negatively affecting larger water providers.

The CWCB and the Statewide Water Investment Funding Committee would recommend that this fund be developed with a starting balance of \$300 million. Lenders typically require a 10 percent repayment guarantee on a bond issuance, which would therefore support \$3 billion in water project construction. Given that the amount of repayment guarantee diminishes over time once bonds are issued, those funds that are no longer needed to guarantee repayment on the original total bond amount, could then be reinvested into other needed environmental programs.

Impact Investment Capital (Green Bonds) – If a State Repayment Guarantee Fund is successfully developed, it could potentially support \$3 billion in water infrastructure projects throughout the State. To assist in providing funding for environment and recreational projects that may or may not be attached to a specific water infrastructure project, it is recommended that the CWCB work with

specific environmental groups to secure private capital through the issuance of bonds (Green Bonds), to provide meaningful, immediate funding for environmental and recreation projects throughout the State. The Green Bonds could be issued in incremental amounts over time to support projects that have been identified previously, which would minimize debt investment return costs under one large bond issuance. In summary, only issue bonds that can actually be spend in a specified time frame. The CWCB recommends that these funds be managed and disbursed through the CWCB's Watershed Restoration Program, requiring substantial reorganization of that program.

The long term obligation and repayment of the Green Bonds could come from a combination of revenues from the CWCB's Severance Tax Perpetual Fund, or public initiative, as further discussed below.

State Referendum – Any taxpayer-supported effort and accompanying long-term debt needs to be approached with care and consideration. There should be a clear and concise reason for the need, a comprehensive plan for how and where the funds will be expended, defined oversight and accountability, and a plan that addresses the long-term challenges.

In 2003, the Coloradans voted on Colorado Water Projects Referendum A, a ballot initiative that would have allowed the CWCB to borrow up to \$2 billion by issuing bonds to construct water projects throughout the state. This ballot initiative was soundly defeated with 67 percent against and 33 percent in favor. Though Referendum A was initiated to resolve a long-term water challenges in the state, it was not accompanied by a comprehensive plan outlining how to address that challenge, a quantification of the magnitude of financial need, or where and how the money would be spent.

Since 2003, a substantial amount of time and resources have gone into developing a comprehensive overview of the state's current and long-term water needs. In 2005, HB 1177 was passed creating the Inner Basin Compact Committee, the basin roundtables, and the WSRA. In 2010, the State completed the SWSI that provided a detailed assessment of the state's current and future water needs. In 2011, the Colorado River Water Availability Study (CRWAS) was completed, and in 2015 the basins completed the BIPs, which identified basin-specific needs, and projects and methods.

The development of the BIPs provides an excellent road map of what the State needs to accomplish to address its long-term water supply needs. It is the result of decades of discussion, debate, and collaboration among water users, providers, and the Colorado General Assembly. The BIPs, with prioritization and refinement, could provide the necessary framework to attach to state referendum funding. A State Referendum could generate hundreds of millions of dollars per year, phased over a defined period, generated from sale tax revenues, income tax, etc. The funds could reside in a statewide water investment fund that would be distributed either as a loan, grant or combination of the two, managed and disbursed through the CWCB. A portion of the funds could also be reserved as repayment guarantees for water providers seeking bonds. The policy developed to manage and disburse money from this fund could include a zero-interest rate to market loans, security or repayment guarantees on bonds, environmental and recreational grants, permitting assistance,

legal assistance, expanding funding levels for existing programs, etc. P&I returned to the fund would be invested in water projects or other areas of need within the state.

As a comparison, in 2013, the Texas Legislature authorized a transfer of \$2 billion from the State's "Rainy Day Fund" to create a new loan program, later approved by Texas voters, to fund projects in the State Water Plan. This original investment in the State Water Implementation Fund for Texas (SWIFT) and the State Water Implementation Revenue Fund for Texas (SWIRFT) was designed to fund almost \$27 billion in water supply projects over the next 50 years to ensure that Texas communities have adequate supplies of water during drought. Additionally, in November of 2014 the State of California approved Proposition No. 1, which allows the state to redirect \$425 million in unsold bonds and sell \$7.1 billion in additional bonds, for a total of \$7.5 billion in general obligation bonds. The funds would be used to manage water supplies, protect and restore wetlands, improve water quality, and flood protection.

Mill Levy – In lieu of a statewide referendum, a more targeted approach could be taken to increase property taxes in those counties with large population bases along the front range, such as Adams, Arapahoe, Boulder, Denver, Douglas, El Paso, Jefferson, Weld, and Larimer Counties. These large population centers could be assessed an additional four to eight mills on their property taxes to provide critical water project funding in their area and to offset affects to other areas. This could generate approximately an additional \$215 million to \$430 million dollars per year and reside in a water investment fund as described above.³⁸ For comparison, typical Fire District revenues are based on 8 mills. This option might be better handled at local levels based on specific water provider needs within a specific service area.

Container Fee Ballot – In 2010, two citizens filed a Ballot Initiative seeking a fee on beverages containers sold in Colorado. Unofficially captioned "Container Fee to Fund Water Preservation and Protection" by legislative staff for tracking purposes, the initiative was heard by the Ballot Title Setting Board in April of 2010. The initiative title for the ballot was appealed to the Supreme Court on the basis that by naming the basin roundtables specifically the initiative was not a single subject. The Supreme Court granted the appeal and the initiative was dropped. This initiative has merit and should be reevaluated. It was estimated in 2010 that this initiative could generate in excess of \$100 million per year and could go directly for water projects, environmental and recreational projects, and stream and watershed management efforts throughout the state.³⁹ It is an initiative that could help offset the negative environmental impact of plastic containers (i.e., bottled water). If the Container Fee Ballot were successful, it would play a key role in moving many of the funding issues identified in this Section forward.

Actions

According to studies by the Environmental Protection Agency (EPA), the Congressional Budget Office, and the Water Infrastructure Network, the cost of addressing our nation's clean water infrastructure needs over the next 20 years could exceed \$400 billion, which is roughly twice the current level of investment by all levels of government.⁴⁰ Colorado alone has nearly \$20 billion in identified water project needs, including water supply, environmental and recreational projects.⁴¹ There is no easy or inexpensive way to provide Coloradans with a sustainable long-term water

supply. The overarching goal is to provide clean, reliable water, at an affordable price, for many generations.

Action Summary:

Realistic, long term funding sources are essential to meeting the future water funding needs of the State. It cannot be assumed that existing programs and revenue streams are sufficient to address the long-term water supply and environmental needs of the state or to maintain existing water supply infrastructure. The following actions, as described below, could greatly assist in meeting the State's water funding needs over the next decade and assist in developing the necessary momentum in addressing the long term funding need of the State. The CWCB will work with the water investment funding committee to explore options to implement the following initiatives:

1. **Public funding sources:** Identify and determine a path to develop a new viable public source of funding, such as through a container fee ballot initiative to support a guarantee repayment fund, green bonds, and to provide additional support grants and loans for the water supply reserve account, education, alternative transfer methods, conservation, and agricultural viability.
2. **State repayment guarantee fund:** Establish a state repayment guarantee fund.
3. **Green bonds:** Develop issuance and repayment strategies needed to establish a green bond program to provide a funding source for large environmental and recreational projects.
4. **Water education and outreach:** Fund a water education and outreach grant program based on basin roundtable education action plans and the initiatives indicated in Colorado's Water Plan.
5. **WSRA:** Provide additional state account funds to the water supply reserve account program.
6. **Public-Private-Partnerships:** Modify Colorado's statutes to clearly allow for public private partnerships for water projects (§C.R.S. 43).
7. **Conservation:** Explore a tax credit for homeowners who install efficient outdoor landscapes and irrigation as part of the integrated funding plan.

Colorado's Water Plan identifies the following actions:

1. The CWCB will work the water investment funding committee to develop a sustainable funding plan that integrates a guarantee repayment fund, green bonds, and additional support grants and loans for the water supply reserve account, education, alternative transfer methods, conservation, and agricultural viability.
2. The CWCB will assess funding needs across multiple sectors using the BIPs and other resources as guides (e.g., municipal, environmental, industrial, recreational, agricultural, conservation, education and outreach, among others).
3. The CWCB will determine the economic benefits and effects of meeting or not meeting Colorado's future water needs.
4. The CWCB will work with the General Assembly and state agencies to align state funding policies and promote coordination among state agencies to strategically support the values identified throughout Colorado's Water Plan, such as the need for multi-purpose and multi-partner projects and methods. The State will take the following actions:

- Develop a common grant inquiry process coordinated across funding agencies for environmental and recreational project proponents. This will include revisiting and reorganizing how the current State Funding Coordinators Meeting is conducted.
- Review the CWCB's financial policies to consider providing financial incentives to move projects and methods forward and to assist small water providers in addressing upfront planning costs, such as reduced interest rate categories, extended terms (40 years), et al.
- Pursue additional funds to support the Water Efficiency Grant Program, which provides financial incentives for implementing conservation programs and planning for drought. Investigate expanding the authority of the program to provide grant funds to municipalities for documented water conservation/savings to help offset the economic impact of lost revenue because of reduced water usage. Develop funding recommendations.
- Assess whether there are additional loan opportunities for municipal conservation practices.
- Pursue funding to establish a water education and outreach grant program and develop recommendations on funding.
- Assess opportunities for additional WSRA grant funds. As part of this, work to amend the WSRA guidelines on how any additional funding is allocated, approved and disbursed to prioritize projects that provided the greatest benefit to Colorado.
- Seek an amendment to statutory language to expand the CWCB's loan program's authority to fund treated water supply, reuse, conservation, environmental, and recreational projects and methods.
- Continue to provide \$1 million annually to support stream management and watershed plans, and develop an established funding source.
- In partnership with the water investment funding committee, review and prioritize water projects identified in the BIPs, in coordination with the basin roundtable representatives, to develop a funding plan for those that could move forward. Based on the identified funding level, develop funding strategies that use existing and new funding sources to move high-priority projects forward in one to three years.
- Investigate the potential for the CWCB to become a project beneficiary through an arranged partnership for projects that are central to fulfilling the goals of Colorado's Water Plan.
- Identify and develop, in two years, a single multi-benefit, multi-partner, shared infrastructure pilot project that is funded through a joint revenue stream of public and private funding. From this pilot project develop the framework for how future water public-private partnership projects will move forward, considering best procurement practices, maintenance and operation, water administration and management, et al.
- Continue to use the water investment funding committee, made up of representatives from each basin, the CWCB, the Water and Power Authority, Executive Director's Office, large water providers, and the private sector, to evaluate the funding recommendations contained within Colorado's Water Plan and others,

to develop a well planned, phased approach to provide funding for water projects, environmental projects, recreational projects, and stream and watershed management throughout the state. This committee met over the course of 2015 and will continue to meet to provide funding and implementation recommendations to the CWCB.

- Over the next year, continue to develop and fund a modern method to determine probable maximum precipitation for spillway sizing for dams in Colorado with the intent to provide additional storage while minimizing capital investment.
 - Consider allocating all or a portion of any surplus in the Department of Natural Resource's severance tax operational account revenues, for efforts prioritized in Colorado's Water Plan.
5. The State will explore near-term opportunities to increase funding resources by implementing the following actions:
- Develop preliminary support data for various public funding options, such as state referendums, individual county mill levy increases, the insurance tax premiums, user fees, or other potential funding mechanisms.
 - Explore a Center of Excellence to create a working model of public-private-partnerships for water projects and methods.
 - Explore how a water investment (public tax) fund could be created, managed and disbursed.
 - Work with other applicable state agencies to develop a reserve fund that would act as a security or repayment guarantee by the State to water providers seeking bond funds through the Authority.
 - Explore the concept of a container fee ballot initiative.
 - Develop issuance and repayment strategies in issuing Green Bonds, as early as 2016, for environmental and recreational projects. It's recommended that Green Bonds be issued incrementally based on identified need to minimize repayment costs.
 - Reassess the Instream Flow Tax Credit program to determine how to make it more usable.
 - Work with various stakeholders, Department of Real Estate, the Department of Revenue, and appropriate legislative committees to develop strategies to maximize the conservation tax credit program.
 - Explore potential uses of Conservation Tax Credit revenues for stream and watershed restoration.
 - Explore with water providers the possibility of issuing a state tap fee for future taps installed statewide. Funds developed could be used to support the CWCB Water Efficiency Grant Program and/or water education. The amount assessed per tap would need to be determined based on the estimated number of new taps issued statewide and target revenue.
 - Assess the funding opportunity from the Water Infrastructure Finance and Innovation Authority (WIFIA) and the Rural Infrastructure Fund for loans to rebuild aging water infrastructure. Encourage the U.S. Department of Transportation and

- other agencies to share lessons learned regarding innovative financing programs with the Corps and the EPA as they implement WIFIA.
- Work collaboratively with foundations and nonprofits to support the environment, recreation, and education priorities through philanthropy.

9.3 State Water Rights and Alignment

Colorado's Water Plan ensures that state agencies coordinate the uses of their current and future water rights and will uphold Colorado's water values, as discussed in Chapter 1.

Several Colorado state agencies hold and exercise water rights for various beneficial uses that are authorized by Colorado's constitution and statutes, and by permits and water court decrees. The Division of Water Resources (DWR) administers water rights, including state-held water rights, within the state's priority system and does not own any water rights. As part of developing Colorado's Water Plan, the CWCB asked each state agency to develop an inventory of its water rights, to the extent it had not already developed one. This section describes state agencies that hold water rights, including each agency's mission and the legal basis for each agency's water rights and their uses. It also summarizes the agencies' water rights inventories and describes how the state is aligning its water rights with the water values identified in Colorado's Water Plan, provided in Chapter 1. Finally, this section describes how state agencies will work to maximize the use of their water rights to realize to greatest benefits to the state as a whole. Note that the inventory process is ongoing and the CWCB will continue to incorporate information as it becomes available.

Inventory of State Agencies' Water Rights

The CWCB

Mission and Statutory Authorities

Colorado established the CWCB in 1937 with the mission to *conserve, develop, protect, and manage Colorado's water for present and future generations*.⁴² *Section 37-92-102(3), C.R.S. (2014) authorizes the CWCB to appropriate and to acquire water for instream flow water rights and natural lake level water rights to preserve and improve the natural environment to a reasonable degree. Section 37-60-106(n) authorizes the CWCB to take actions necessary to acquire or perfect water rights for projects it sponsors.*

The CWCB Water Rights Inventory

The CWCB currently holds 1595 decreed instream flow water rights that protect approximately 9180 stream miles and 480 decreed natural lake level rights.⁴³ The CWCB also has entered into 30 transactions by which it has acquired water, water rights, or contractual interests in water for instream flow use.⁴⁴ Pursuant to an agreement with the U.S. Army Corps of Engineers, the CWCB owns two storage rights in Bear Creek Lake in Jefferson County for approximately 2000 acre-feet, decreed absolute for piscatorial and recreational purposes, and conditional for municipal, domestic, industrial, and irrigation.⁴⁵ In 2012, the CWCB exercised its right to acquire its project water allocation of 10,460 acre-feet (supply) and 5230 acre-feet (depletions) in the Animas-La Plata Project. Currently, the project is decreed for municipal and industrial uses only, but the CWCB may

use this water for compact compliance, endangered species, and instream flow purposes.⁴⁶ The CWCB intends to sell or lease its water allocation to local water providers in southwest Colorado as demands dictate.

Finally, the CWCB is an active partner in the Chatfield Reservoir Reallocation Project and has multiple roles that include feasibility study sponsor, storage space share holder, and financial lender for low-interest project loans. Further, the Colorado General Assembly appropriated funding within two consecutive legislative cycles so that the CWCB could hold, and later disperse for investment recovery, a certain percentage of unused storage space commonly referred to as "orphan shares." In October 2014, following an approval letter and federal Record of Decision (ROD), the Colorado Department of Natural Resources (DNR) executed a storage contract with the U.S. Army Corps of Engineers to use up to 20,600 acre-feet of additional storage space in the reservoir.⁴⁷ The new space will be used to store water supply for multiple uses.

Uses of the CWCB's Water Rights

The CWCB uses its instream flow and natural lake level water rights to preserve the natural environment to a reasonable degree. In some cases, the CWCB uses water acquired for instream flow use to improve the natural environment to a reasonable degree. These uses enhance healthy watersheds, rivers and streams, and wildlife. Additionally, through its water acquisitions, the CWCB can work with other entities on multi-purpose projects, aligning water rights to meet consumptive and nonconsumptive needs.

One such example of a multi-purpose project is the CWCB's acquisition, in partnership with the Colorado Water Trust and Skyland Metropolitan District, of an interest in the Breem Ditch, located in the Gunnison River Basin. This project resulted in multiple uses of the acquired water right, which included preserving and improving the natural environment on Washington Gulch and the Slate River with subsequent municipal use by the District to meet the needs of its constituents. The CWCB, in partnership with the Colorado Water Trust, also has acquired an interest in the McKinley Ditch, located in the Gunnison River Basin. The CWCB will use the water in a split-season arrangement, under which a lessee will use the water to irrigate in the early season and the CWCB will use the water for instream flow use for the remainder of the irrigation season. These creative and flexible approaches enable the CWCB to work with its partners to protect Colorado's streams and the species that rely on them, to sustain agriculture, and to maximize beneficial uses of Colorado's water. The CWCB will use this water rights inventory process as a starting point for increased coordination with other state agencies to explore opportunities for sharing water.

The legislation that authorized the CWCB to appropriate and acquire water for instream flow and natural lake level water rights recognized the need to "correlate the activities of mankind with some reasonable preservation of the natural environment."⁴⁸ The General Assembly imposed that balance by limiting instream flow appropriations to amounts the CWCB determines are "required for minimum stream flows to preserve the natural environment to a reasonable degree."⁴⁹ The multi-purpose projects described above are an innovative and important way to benefit the natural environment while maintaining other uses of water. The CWCB acknowledges the many competing needs for water in Colorado and will continue to work closely with stakeholders to ensure instream

flow protection and other water uses co-exist harmoniously to achieve the necessary balance to uphold the Colorado Water Plan water values.

Colorado Parks and Wildlife (CPW)

Mission and Statutory Authorities

CPW was created by the merger of the Division of Parks and Recreation and the Division of Wildlife in 2011.^e The two state agencies are responsible for conservation, outdoor recreation, and wildlife management for current and future Coloradans.⁵⁰ CPW's mission statement is: "To perpetuate the wildlife resources of the state, provide a quality state parks system, and provide enjoyable and sustainable outdoor recreation opportunities that educate and inspire current and future generations to serve as active stewards of Colorado's natural resources."⁵¹ CPW is authorized to acquire land and water, or interests in land and water, for wildlife purposes and parks and outdoor recreation purposes.⁵²

CPW Water Rights Inventory

At present, CPW holds or manages approximately 1320 decreed water rights, acquired primarily using sportspersons' dollars dedicated to preserving wildlife habitat, providing public access, and producing fish to stock state waters. Using general descriptors of these water rights, roughly 620 are direct flow surface water rights, 270 are groundwater rights, 220 are spring rights, and 210 are storage rights. The water rights are decreed for irrigation, piscatorial uses, direct flow rights for fish propagation, wildlife and recreation, and domestic rights for employee housing and water supply for drinking and sanitary purposes at state parks. Some permitted wells, other water interests not associated with court decrees, and various agreements are not included in this number.

Uses of CPW Water Rights

Governor Hickenlooper, through his executive order, required that Colorado's water values (outlined in Chapter 1) be reflected in Colorado's Water Plan.

CPW is the state agency charged with protecting wildlife and natural resources and providing recreation now and for future generations. Nearly all of the water rights owned or leased by CPW are dedicated to this purpose.^f This directly supports the Governor's goals and the agency's constitutional and statutory obligation to protect, preserve, enhance, and manage wildlife and recreation for the use, benefit, and enjoyment of the people of this state and its visitors.

There is statewide acknowledgement that supporting environmental and recreational attributes is vital to local economies and Coloradan's quality of life. The statewide environmental and economic benefits provided by Colorado's streams and lakes require that the state protect environmental, wildlife and recreational water needs. For example, endangered or threatened species and species of concern exist throughout the state; consequently, the State must ensure that there is water

^e House Bill 11-208 established the merger of the Division of Parks and Recreation and the Division of Wildlife. House Bill 12-1317 established the composition of the new Parks and Wildlife Commission

^f The 'Parks' side of CPW has some domestic water rights that provide water for bathing, drinking etc. at State Parks. These are the only rights not dedicated to protection and preservation of wildlife and natural resources.

available to support these species. Similarly, while there are hotspots for recreation (e.g., rafting on the Upper Arkansas River and fishing on the Colorado River), the state benefits by supporting healthy multi-faceted recreational economies on both the Front Range and on the western slope.

CPW provides outdoor recreation, hunting, and fishing opportunities for more than 12 million state park visitors, 284,000 licensed hunters, and 733,000 licensed anglers. About 45 percent of Coloradans report that they regularly visit state parks. Recent studies indicate that roughly 18 percent of Coloradans are anglers and almost 5 percent of Coloradans hunt. Additionally, over 80 percent of all Coloradans use trails and over 50 percent participate in water sports. Overall, activities supported by CPW result in over 24 million recreation days per year in Colorado.

CPW's water use supports:

- Fisheries (rivers, reservoirs)
- Fish stocking (hatcheries)
- Recreation (fishing, boating, hunting, wildlife viewing)
- Habitat
 - Instream flows
 - Conservation pools in reservoirs
 - Wetlands, riparian habitat
 - Forage production, terrestrial habitat through irrigation
- Threatened and endangered species protection, recovery and propagation
- Groundwater recharge
- Drinking water for visitors to state parks and wildlife areas

Partnerships are critical to CPW's mission. CPW works extensively with private landowners, local, state, and federal agencies, other public entities, such as water districts and municipalities, and non-governmental organizations (NGOs) in a number of wildlife and recreation related areas. Some of the water-related projects include:

- Partnerships for protecting and restoring species of concern such as the Colorado River cutthroat trout, roundtail chub, bluehead sucker, and flannelmouth sucker.
- General fishery management strategies regarding management classifications for all waters in the state such as the Basin Aquatic Wildlife Management Plans.
- Partnerships with agricultural water users to share and coordinate the use of water resources, such as the Rio Grande cooperative agreement and the Tamarack Ranch groundwater recharge project.
- Development of data to understand water quality issues and support wise water quality management.
- The Habitat Partnership Program is funded by revenue from the sale of big game licenses and develops partnerships among landowners, land managers, sportsmen, the public and CPW to reduce wildlife conflict, particularly conflict associated with forage and fencing. Habitat Partnership Program committees are responsible for finding local solutions to local problems. This program works with public and private landowners to develop distributed water features, such as stock ponds, solar wells, and springs statewide, that improve livestock or game distribution on the landscape and keep riparian damage to a minimum.

- Protect water-dependent conservation values on easement properties helping to minimize agricultural dry-up and provide long-term benefits to wildlife and landowners.
- Investments that provide public access and recreational opportunities to and on otherwise private land and water rights.
- Work with the CWCB on the protection and enhancement of streams and lakes through the Instream Flow Program. For example, in 2012, CPW loaned water to the CWCB from Lake Avery for instream flow use on Big Beaver Creek and the White River.
- Work with the Colorado Department of Public Health and Environment to ensure protection of water quality for fish, amphibians, wildlife, plants and people.
- Provide water to enhance wetlands on Natural Resource Conservation Service Wetlands Reserve Program easements in the San Luis Valley, benefitting both wildlife and agricultural operations.

CPW is committed to developing positive relationships in every area of the state. There is also the potential to bolster CPW's work with other state agencies to develop and realize additional benefits from water assets. For example, CPW looks forward to working more closely with the State Land Board (SLB) to develop ways to use water assets that enhance wildlife habitat on state trust lands.

While some examples of projects with multiple benefits are listed above, the ability to use any particular water right for multiple purposes is generally a function of the individual water right decree. CPW's water is first and foremost dedicated to environmental, wildlife, and recreational uses, with most of CPW's water rights decreed for these uses. However, CPW actively works within the various water basins to find opportunities to optimize the use of water to benefit Coloradans without diminishing the protect wildlife, habitat, and recreational facilities.

[Colorado State Land Board \(SLB\) of Commissioners](#)

Mission and Constitutional/Statutory Authorities

The SLB protects, enhances, and manages Colorado's permanent endowments of assets to generate revenue for Colorado's public schools and public facilities. The SLB believes that economic productivity in perpetuity is dependent on sound stewardship, which includes the protection and enhancement of the beauty, natural values, open space, and wildlife habitat of those lands. Amendment 16 of the Colorado Constitution and Section 36-1-118, C.R.S. govern the SLB's management of its assets.

SLB Water Rights Inventory

The majority of the SLB's water assets consist of agricultural stock wells. The SLB's inventory identified and verified the following water assets:

Type of Water Asset	Quantity	Comments
Ownership Shares in Ditch Companies	9	Used to support agricultural leases located on state trust land.
Decreed Surface Water Structures	17	
Decreed Groundwater Structures	117	
Permitted Structures	55	
Agricultural Stock Wells (estimated)	3,000	These are stock wells located on state trust land, used to support grazing leases and permitted at less than 15gpm.

Uses of SLB Water Rights

All water rights currently owned by the SLB are used to support agricultural production on state trust lands. This directly supports the agency’s constitutional and statutory obligation to “protect and enhance the long-term productivity and sound stewardship of state trust land held by the board” by promoting sound land management practices, long-term agricultural productivity, and community stability. This use of the SLB’s water rights also supports Colorado’s Water Plan goal to maintain viable and productive agricultural lands.

Additional opportunities for the SLB to work with other state agencies to develop and maximize benefits from its water assets include:

- leasing existing water assets to CPW or the CWCB to support projects that enhance wildlife habitat on state trust lands;
- selling or leasing land to other agencies for the development of new water projects; and
- purchasing new water assets that can be held by the SLB and leased to other state agencies.

History Colorado

Established in 1879, History Colorado is both a state agency under the Department of Higher Education and a 501(c)(3) charitable organization.⁵³ History Colorado is a trustee of the state and holds property on its behalf.⁵⁴

Type of Water Asset	Quantity	Uses
Leased Water Rights	2	Commercial, Domestic, Storage
Decreed Surface Water Structures	2	Augmentation
Decreed Groundwater Structures	7	Commercial, Domestic, Industrial, Irrigation, Geothermal

History Colorado Water Rights Inventory

History Colorado’s water assets are a mix of surface, ground, and leased rights. History Colorado’s inventory identified and verified the following water assets:

Uses of History Colorado's Water Rights

History Colorado uses its water rights in connection with the operation and maintenance of its museums and historic sites.

Colorado Department of Corrections (DOC)

Mission and Statutory Authorities

The DOC is governed by Article 17, C.R.S. (2014). The DOC's mission is "To protect the citizens of Colorado by holding offenders accountable and engaging them in opportunities to make positive behavioral changes and become law-abiding, productive citizens."⁵⁵ Section 37-88-101 authorizes the DOC to own ditches, canals and reservoirs for irrigation and domestic purposes.⁵⁶ Section 17-24-106 authorizes the Division of Correctional Industries to own real and personal property, which includes water rights.⁵⁷

The DOC Water Rights Inventory

The DOC owns a number of water rights, including surface and groundwater rights and one storage right, located in Water Divisions 2, 4, and 5. The decreed uses of these water rights include: irrigation, (including irrigation by reuse and successive use of treated wastewater), domestic, exchange, augmentation and recreational (including fish and wildlife), storage and subsequent application to beneficial uses, sanitary, commercial, industrial, stock watering, mechanical, horticultural, fire protection, and manufacturing.

Uses of the DOC's Water Rights

Currently, the DOC uses most of its water rights for landscape irrigation and to support the Division of Correctional Industries agribusiness program (e.g. raising pasture grass and hay to support cow-calf dairy herd development). The DOC uses the wells and reservoir associated with the Rifle Correctional Center in Garfield County to support all functions at the facility, including irrigation needs.

Actions

Based upon the information compiled in the state agency water rights inventory process, the state agencies discussed in this section are currently using their water rights in ways that accomplish their respective missions, benefit the state, and further the water values underlying Colorado's Water Plan. To further align state water rights with these values and maximize the use of these water rights to realize all possible benefits to the state, the following actions are necessary:

1. The CWCB will continue to work with state agencies to compile and update inventories of their water rights.
2. The CWCB and other state agencies will use the information resulting from the inventory as a basis for coordinating agencies' water right uses and potentially sharing water to provide additional benefits to the state. To accomplish this, the CWCB and other state agencies will:
 - a. Convene work groups comprised of multiple agencies' staff to identify opportunities to align the agencies' water rights to achieve additional benefits and where feasible, use those water rights to meet identified needs. For example, the CWCB and CPW can identify opportunities for releases from CPW reservoirs to be protected under the state's Instream Flow Program;

- b. Encourage sharing and optimal use of water among state agencies where efficiency savings might be realized, and
 - c. Conduct technical and legal feasibility analyses of identified opportunities for aligning or sharing agency water rights and advance feasible projects in a timely manner.
3. The CWCB will identify state-owned water rights within the Colorado River Basin and evaluate opportunities for these rights to assist with Colorado River Compact compliance. For example, the Animas-La Plata project contract between the BOR and the CWCB recognizes that the state's stored water right in the project could be used for compact compliance purposes. There may be other state resources like this one that could assist the state in complying with its obligations under the Colorado River Compact.
4. The CWCB will continue to schedule joint meetings with local governmental water management agencies around the state to facilitate information sharing and coordination on common water rights issues.
5. The CWCB will work with local stakeholder groups to determine where instream flow water rights could provide the greatest benefits, and assist such groups with the instream flow recommendation process.
6. The CWCB will partner in the early stages of future multi-purpose projects as a water rights holder when such partnership is needed to ensure the success of the project, minimize environmental impacts of a project, or otherwise further the water values in Chapter 1.
7. In coordination with the CWCB and interested stakeholders, CPW will take the lead on identifying opportunities to use CPW's water rights to help fill environmental and recreational gaps while maintaining consistency with its mission, statutory mandate, and rules/policies governing the use of CPW property.^g

^g Colorado Parks and Wildlife is funded primarily through the sale of hunting and fishing licenses, parks passes and permits, and the receipt of associated federal parks and wildlife funds. All real property interests, including water rights, purchased with wildlife cash, parks cash, or associated federal funds are required to be used only for parks and wildlife purposes. *See* sections 33-1-112(1), 117, 118, and 119, 33-9-107 and 109, 33-10-108(1), 111, 112, and 113, C.R.S.; *see also* 16 U.S.C. 669 to 669i, 16 U.S.C. 777 to 777l, and 16 U.S.C. 4601-4 to 4601-11. As such, there is limited ability to use such water rights for any purpose other than the originally intended parks and wildlife purposes. Any secondary or shared uses must be consistent with, and not otherwise impair, the water rights' originally intended parks and wildlife purposes.

9.4 Framework for a More Efficient Permitting Process

Colorado's Water Plan advocates effective and efficient permitting in which State of Colorado agencies work together to complete their work early in the permitting process. This will provide the opportunity for state endorsement without being pre-decisional.

Introduction

Governor Hickenlooper's May 2013 Executive Order reiterated that the gap between Colorado's water supply and water demand is real and looming. While conservation is a key strategy to narrowing the gap across the state, it alone cannot solve the problem. Scenario planning indicates that at least 80 percent (350,000 acre-feet) of already planned projects need to be implemented, and many of these still need to go through the permitting process.⁵⁸ Ideally, the permitting process ensures the implementation of projects that best meet Colorado's water values—to support vibrant and sustainable cities, viable and productive agriculture, a robust tourism industry, efficient and effective infrastructure, and a strong environment. The current permitting process needs review and the Executive Order directed the CWCB to “streamline the State role in the approval and regulatory processes regarding water projects.”⁵⁹

The objective of this section is to explore how permitting in Colorado can be more effective and efficient. Tackling permitting is extremely difficult because of the complexity of the projects, the challenges in understanding and reducing environmental impacts, and the condition of many of the aquatic systems. The section describes the current permitting and licensing processes, the challenges that arise during the process, and the reforms that could make the process more efficient and effective for all parties involved. The proposed solutions focus on how the State can be more effective and eliminate and reduce redundancies. The section also touches on the benefits of cooperation among federal agencies, local governments, and stakeholders. The approach described in this section allows the State to endorse a project without predetermining the outcome of an environmental permit, certification, or mitigation plan.

Summary of Each Process within Water Permitting

This section briefly explains the state and federal process that project proponents are required to address to complete their project. A description of entities involved in permitting can be found in Section 2.4.

National Environmental Policy Act (NEPA) Process

NEPA is a federal law that establishes a structured planning and decision making framework required for any federal decision with the potential to significantly impact the human environment. NEPA requires federal agencies to assess the environmental effects of their proposed actions before decision making. Importantly, NEPA provides opportunities for citizen involvement in government decision making through public disclosure and formal opportunities for public input as the environmental effects are evaluated.⁶⁰

There are three situations in which a water supply project may trigger NEPA's procedural requirements:

- One or more project components will occur on federal lands (e.g: National Forest or Bureau of Land Management lands)
- The project or its components will be funded in part or whole by a federal funds; and
- The project will require a federal permit or license

For water projects in Colorado, the most common federal actions that lead to a NEPA environmental review are: a Bureau Of Reclamation contract for storage of water in a facility managed by that agency, a U.S. Army Corps of Engineers (Corps) Clean Water Act (CWA) Section 404 permit, a project component that will be built on federal land, or a Federal Energy Regulatory Commission hydropower license.⁶¹

The NEPA process is intended to help public officials make decisions that based on an understanding of environmental consequences and take actions that protect, restore, and enhance the environment.⁶² NEPA regulations instruct federal agencies to use the NEPA planning process “to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment” and to use all practicable means “to restore and enhance the quality of the human environment and avoid or minimize any possible adverse effects of their actions.”⁶³ It is through public and agency input that these goals are to be achieved.

The NEPA process begins when the federal agency determines there is the need to take an action. The federal agency that needs to take action is the lead agency and is the agency responsible for compliance with NEPA. Depending on the circumstances, a joint lead agency and/or cooperating agencies can be identified to share in the responsibilities of completing NEPA environmental review. For many state water projects, an Environmental Impact Statement (EIS) process is required when a project may have significant environmental impacts.⁶⁴

NEPA regulations direct federal agencies, to the fullest extent possible, to integrate the requirements of NEPA with other planning and environmental review procedures required by law or by agency practice so that all such procedures run concurrently rather than consecutively.⁶⁵ This goal is often not met, leading to an extended, consecutive planning process. To successfully achieve the goal of concurrent planning, the NEPA process must start at the earliest possible time within the water supply project planning process. It is recommended that proponents assess whether a project proposal is likely to trigger NEPA planning requirements at the start of planning and then engage the relevant federal agencies immediately.

Clean Water Act Section 404

Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Activities regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports), and mining projects. Section 404 requires a permit before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from Section 404 regulation (e.g. certain farming and forestry activities).

In summary, the Code of Federal Regulations (CFR) 40 Part 230 Section 404(b)(1)(Guidelines) states, no discharge of dredged or fill material may be permitted if:

- A practicable alternative exists that is less damaging to the aquatic environment
- Causes or contributes to violations of any applicable state water quality standard
- It violates any applicable toxic effluent standard
- It jeopardizes the continued existence of species listed as endangered or threatened under the Endangered Species Act
- The nation's water would be substantially degraded; and unless steps have been taken which will minimize potential adverse impacts of the discharge on the aquatic ecosystem.

Like NEPA, Section 404 requires specific, structured planning steps and information most efficiently addressed at the initial stages of project planning, and development. Various federal agencies have different Section 404 roles and responsibilities. The Corps administers the day-to-day permitting program, including individual and general permit decisions. The Corps also conducts or verifies jurisdictional determinations, develops policy and guidance, and enforces Section 404 provisions. The EPA develops and interprets policy, guidance and environmental criteria used in evaluating permit applications. The EPA also determines the scope of geographic jurisdiction and evaluates the applicability of any exemptions, approves and oversees state and tribal assumptions, and reviews and comments on individual permit applications. The EPA has the authority to prohibit, deny or restrict the use of any defined area as a disposal site under section 404 (c), may elevate specific cases for further evaluation under Section 404(q), and enforces Section 404 provisions. The U.S. Fish and Wildlife Service (FWS) evaluates impacts on fish and wildlife of all new federal projects and federally permitted projects, including projects subject to the requirements of Section 404. The FWS also elevates specific cases or policy issues about an individual permit that is required for activities that have potentially significant impacts. Individual permits are issued by the Corps, which evaluates applications under a public interest review, as well as the environmental criteria defined in the Guidelines, and NEPA regulations if they are applicable. For most discharges that have only minimal adverse effects, a general permit is issued. General permits are issued on a nationwide, regional, or state basis for particular categories of activities. Large scale water projects require an individual Section 404 permit.⁶⁶

401 Water Quality Certification

Under Section 401 of the CWA, if an activity that requires a federal license or permit may cause any discharge into navigable waters, the applicant for the federal license or permit must obtain a 401 certification to protect water quality. The Water Quality Control Division (WQCD) is required by Colorado statute (C.R.S., §25-8-302(1)(f)) to review federal licenses and permits under Section 401 of the CWA Colorado Water Quality Control Commission (WQCC). Regulation No. 82 (5 CCR 1002-82) authorizes the division to certify, conditionally certify or deny certification of federal licenses. It also sets forth best management practices (BMPs) applicable to all certifications, with one exception noted below.⁶⁷ Regulation No. 82 applies to division certification of CWA 404 permits issued by the Corps, licenses for hydropower projects issued by the Federal Energy Regulatory Commission, and other federal permits involving a discharge including CWA Section 402 discharge permits issued by the EPA.⁶⁸ The exception is for 402 discharge permits issued by the EPA for facilities on tribal lands, for Section 404 permits issued by the Corps on tribal lands, and for 402

permits issued by the EPA for federally owned facilities on federal lands. For these facilities, the EPA issues the 401 certification.⁶⁹ Individual certification review is not required for Section 404 general or nationwide permits issued by the Corps, except for activities covered by certain nationwide permits on tribal lands. Except for the activities on tribal lands, general or nationwide permits are certified under statute (C.R.S., §25-8-302(1)(f)) without additional conditions.

The WQCD issues a Section 401 water quality certification when it determines there is reasonable assurance that both the construction and the operation of the project will comply with state surface and groundwater water quality standards and requirements. If the Division concludes that the project will comply with the water quality standards and requirements, only if one or more conditions are placed on the license or permit, the Division will issue the certification with the necessary conditions included. House Bill 15-1249 passed during the 2015 legislative session. It repeals and reenacts statutory fees for clean water and drinking water programs in the WQCD of the Colorado Department of Public Health and Environment (CDPHE). One of the many provisions of the bill authorized new fees for the CDPHE certifications related to projects affecting regulated water quality standards in jurisdictional waters of the United States, known as 401 certifications. The WQCC establishes 401 certification fees by rule according to a tiered schedule, with these fees taking effect starting in FY 2016-17.

Fish and Wildlife Mitigation Plans

Colorado State Statute 37-60-122.2 (C.R.S.), known as the Fish and Wildlife Resources Fund and Authorization, declares that fish and wildlife resources are a matter of statewide concern and that impacts on such resources should be reasonably mitigated by applicants proposing water diversion, delivery, or storage projects. Applicants must submit a proposed mitigation plan to the CPW Commission for review and approval. If the applicant and the Commission reach a mutual agreement, the proposed plan is forwarded to the CWCB for Board adoption as the official state position. If the Commission rejects an applicant's plan, it is still forwarded to the CWCB. If the CWCB disagrees with the Commission, then the Governor decides whether to approve the plan.

A mitigation plan is generally required when an applicant seeks a permit or license from the federal government for the specified types of water projects, with some exceptions as noted in the statute.⁷⁰ The CWCB has grant funds available for applicants to help implement the mitigation plans. The CWCB has established criteria for such grants.⁷¹ Examples of completed or in progress Section 122.2 plans include Southern Delivery System (SDS), Windy Gap Firing Project, Moffat Collection System Project, and Chatfield Reservoir Reallocation project.

Reclaimed Water Regulation

The Colorado Water Quality Control Commission Regulation No. 84 (5 CCR 1002-84) and the WQCD's reclaimed water program is designed to promote the use of reclaimed water in Colorado. It includes requirements and minimal standards for reclaimed water and for treaters and users of reclaimed water to employ Best Management Practices for its use. These minimal standards are necessary to protect public health and the environment. Regulation applies to the use of reclaimed water for landscape irrigation, agricultural irrigation, fire protection, industrial, and commercial uses as detailed in the table below. The treatment and best management practices required before

and during use depend on the use of the reclaimed water. Regulation 84 requires treaters and users to obtain and comply with a notice of authorization issued by the WQCD. The notice of authorization contains the terms, limits, and conditions, deemed necessary to ensure compliance with Regulation 84.

1041 Local Permits

In 1974, the Colorado General Assembly enacted measures to define the authority of state and local governments in making planning decisions for matters of statewide interest. These powers are commonly referred to as "1041 powers," based on the number of the bill of the proposed legislation (House Bill 74-1041). These 1041 powers allow local governments to identify, designate, and regulate areas and activities of state interest through a local permitting process. The general intention of these powers is to allow for local governments to maintain their control over particular development projects, even where the development project has statewide impacts. The statute concerning areas and activities of state interest can be found in 24-65.1-101 (C.R.S.)

Table 9.4-1: Reclaimed Water Uses Authorized in Regulation 84	
Approved Uses	
Industrial	Evaporative Industrial Processes
	Washwater Applications
	Non-Discharging Construction and Road Maintenance
	Non-Evaporative Industrial Processes
Landscape Irrigation	Restricted Access
	Unrestricted Access
	Resident-Controlled
Commercial	Zoo Operation
	Commercial Laundries
	Automated Vehicle Washing
	Manual Non-Public Vehicle Washing
Fire Protection	Nonresidential Fire Protection
	Residential Fire Protection
Agricultural Irrigation	Non-Food Crop Irrigation and Silviculture

Generally, development may only proceed if consistent with the environmental and developmental goals of the local communities as outlined in their 1041 regulations.

Of particular interest to many local governments are impacts from the construction and operation of large-scale water projects. The Act authorizes local governments to designate the site selection and construction of major new domestic water and sewage treatment systems, the major extension of existing domestic water and sewage treatment systems, the site selection and development of new communities, and the efficient utilization of municipal and industrial water projects as “activities of statewide interest.” Local governments may not pass regulations that are completely

prohibitive of the building of municipal water facilities and expansion of existing projects. The Act allows the locality to require a permit with designated conditions before construction.

Past and Existing Colorado Efforts

In the past, there have been several attempts to coordinate the permitting process. The Colorado Joint Review Process (CJRP) was created by the General Assembly in 1983 to improve the environmental permitting process primarily for energy development. The CJRP was never fully completed for any project.⁷² It is not clear if this is because the energy industry collapsed, or if the process was not considered helpful. Many projects failed to proceed for economic reasons. The CJRP also coordinated the State's combined responses to major projects such as the review of the proposed Denver International Airport, the Two Forks veto, and Colorado's bid for the Superconducting Super Collider. In 1996, the General Assembly allowed the CJRP legislation to expire.

Another attempt to coordinate the review process was initiated in 2003 when Colorado's General Assembly established the Colorado Coordination Council through HB03-1323. The Executive Director of the DNR was designated as the administrator of the council. It was a voluntary coordination process that sponsors could choose to use. The permitting areas allowed within the process included "extraction, use, conservation, transportation, or management of natural resources" that required permits, approvals or compliance from federal, state, or local governments.⁷³ This process was never used, and the statutes supporting the council were allowed to expire in 2013. According to the Colorado Department of Regulatory Affairs (DORA), which reviews statutes set to expire, "Very few outside, or even inside, DNR were aware of the Council's existence. Indeed, most stakeholders contacted as part of this sunset review had never heard of the council... Those within DNR acknowledged that DNR conducted no outreach to inform the community of the Council's existence and, to the best of anyone's recollection, no one at DNR had ever suggested that a project sponsor utilize the Council."⁷⁴

Recently, the State and various Federal agencies have made progress through the use of Memorandums of Understanding (MOUs). No formal legislation was passed to initiate the development of MOUs. These documents assist in creating a structure for the State and these respective agencies to work together with the intention of making a more coordinated permitting process.^h Progress has been made on a Collaborative Approach to Water Supply Permit Evaluation (CAWS) through a series of facilitated conversations, among several parties an informal agreement resulted in which conservation could be treated either as a demand reducer or as an alternative to the project. The process was initiated by the DNR to mutually understand state and federal permitting processes and requirements and identify areas with potential for improved efficiencies.ⁱ

^h Examples include the FERC MOU concerning collaboration with other federal permitting entities and the State and Forest Service MOU concerning coordination with the Colorado Department of Natural Resources and Forest Service.

ⁱ Collaborative Approach to Water Supply Permit Evaluation (CAWS) MOU: Beginning in 2010, the Colorado Department of Natural Resources, U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers met to educate federal permitting partners about state planning and permitting issues. Out of that process, an MOU was developed concerning the utilization of conservation. Rather than conservation being considered as an alternative, it was agreed to that it would be factored into reducing demands as part of the

Despite the lack of an official coordinating statute for state and federal permitting entities, there is coordination. Recently, CPW and the WQCD have become cooperating agencies for several projects undergoing the EIS process of NEPA. Project proponents indicated that this has been a helpful, collaborative effort.⁷⁵ In addition, there is increased coordination within the DNR.

In 2012, President Obama issued Executive Order 13604, "Improving Performance of Federal Permitting and Review of Infrastructure Projects."⁷⁶ Specific federal agencies reportedly applied an expedited review process to 50 pilot projects; each with an accelerated schedule, clear project review milestones, and a designated lead coordinating agency. The project progress was tracked on a "Federal Infrastructure Permitting Dashboard." The Dashboard contained an IT platform where agencies could develop a cooperative schedule, share project documents, and quickly communicate with one another.⁷⁷

Basin Roundtable and Inter Basin Compact Committee Concepts Concerning Permitting

The Interbasin Compact Committee's (IBCC) no-and-low regrets action plan and the BIPs developed by the basin roundtables discuss permitting in depth. Of the eight BIPs, six discuss challenges or solutions. Table 9.4-2 at the end of this section quotes these important stakeholder sources.

While the individual statements in the table do not reflect the position of the State of Colorado, careful consideration of the challenges and solutions should be incorporated into future discussions.

Additional Stakeholder Outreach

To further understand the needs, issues, and potential solutions for the permitting process, the CWCB staff met with and interviewed a variety of water providers, environmental groups, and state and federal partners. The following is a list of organizations the CWCB met with or received comments from concerning permitting. In addition, several individuals provided comment, but are not listed.

The CWCB staff will continue to meet with state and federal permitting and licensing partners throughout the development of Colorado's Water Plan. Staff met with or is in the process of scheduling interviews with the following organizations:

- Ute Water Conservancy District
- Centennial Water & Sanitation District
- U.S. Fish & Wildlife Service
- Bureau of Land Management
- United States Forest Service
- National Resource Conservation Service
- Environmental Protection Agency

purpose and need of the project. While this MOU has not yet been finalized, an important collaborative process was begun to help each agency understand opportunities and constraints that may inform the MOU and streamline processes in the future. Additional efforts will take place to revise and/or finalize the MOU as appropriate.

- Colorado Department of Agriculture
- Colorado Counties Incorporated
- Colorado Municipal League

Stakeholders across sectors desire improved coordination and increased early involvement, regardless of whether they represent environmental or utility interests. In many cases, stakeholders believe that these two aspects would shorten permitting time while upholding the environmental protections permitting secures. Multiple stakeholders also express interest in reducing duplication, increasing resources, lowering costs, unifying methods, increasing clarity, examining reuse permitting, improving quality of draft EISs, and encouraging multi-purpose projects.⁷⁸

Table 9.4-2: Stakeholder Input

	Met with the CWCB	Provided Written Comments
Colorado Department of Public Health & Environment (CDPHE)	X	
Colorado Parks & Wildlife (CPW)	X	
Colorado Attorney General's Office (AGs Office)	X	
Division of Water Resources (DWR)	X	
Northern Colorado Water Conservancy District (NCWCD)	X	X
Trout Unlimited (TU)	X	
South Metro Water Supply Authority (SMWSA)	X	X
U.S. Army Corps of Engineers (Corps)	X	
Environmental Protection Agency (EPA)	X	
Bureau of Reclamation (BOR)	X	X
Federal Energy Regulatory Commission (FERC)	X	
Denver Water	X	X
Upper Yampa Water Conservancy District	X	
Northwest Colorado Council of Governments	X	X
Western Resource Advocates (WRA)	X	X
Colorado Springs Utilities	X	X
Water Reuse Association	X	X
Aurora Water		X
City of Thornton		X
Front Range Water Council		X
Conservation Colorado		X
Colorado Wastewater Utility Council		X
Colorado Oil and Gas Association		X
Pikes Peak Regional Water Authority		X
Fountain Valley Authority		X
Douglas County		X

One common concept is to bring back something akin to the Colorado Joint Review Program described above. The establishment of a joint NEPA review process, beginning before land use

authorization applications are submitted for new water projects, may prove to facilitate a more efficient process. The Bureau of Land Management's experience is that applicants who are willing to have pre-application discussion of potential impacts and perform analysis of alternatives before submitting land use authorization applications experience much shorter wait times.

The Northwest Colorado Council of Governments envisioned the process in the greatest detail, which is summarized below:

Because it is expensive, time consuming, and sometimes "work for the sake of work" for the applicant, regulators, local governments, and other stakeholders to participate in a NEPA process, the State should facilitate a joint review process before and during the NEPA process. This sort of "front loading" minimizes the costs to the applicant and other stakeholders because as early as possible, the applicant and regulators understand what concerns, impacts, and potential for mitigation are relevant in the areas affected by the project; and what will be necessary to satisfy federal, state and local laws and regulations.

This approach also improves the likelihood that alternatives, reports, and studies that are generated during NEPA will be more focused and responsive to actual, real world concerns, rather than reports and studies that are off the mark. Agreement can be reached on the scope of alternatives, reports and studies before the applicant/regulators spend money on consultants to prepare pounds of paper that ultimately are not necessary to satisfy NEPA, the regulators, or affected stakeholders.

Another important result of the process is that for each project, the joint review process would define the regulatory framework and where the overlaps between state, local, and federal processes are, so that they could be coordinated rather than duplicative or contradictory. This saves money for the applicant, the regulators, and the public concerned about the project as well as ensuring that permits can be issued more quickly.

Finally, it provides a forum to formulate agreements, like the Windy Gap Firing Project IGA, that result in projects that benefit the project proponent, the environment, and affected interests.

In order to be part of the joint review process, participants would have to agree to certain principals regarding rules of engagement. Those rules would require that the parties work in good faith, explain interests not take positions, among others.

The local governments from the areas that would be affected by the project should be responsible for identifying the appropriate local stakeholders and coordinating local input.

Critical input points during the process are during:

- 1) Scoping
- 2) Developing alternatives

- 3) Determination of methodologies and data gaps
- 4) Mitigation and enhancement plans

The Front Range Water Council suggests that Colorado use, or modify, the expedited federal permitting procedures and dashboard developed as a result of Presidential Executive Order 13604 described above.

Permitting Issues and Potential Process Improvements

Several common potential process improvements emerged after reviewing the work of the IBCC and basin roundtables and the comments from water providers, the conservation community, and various state and federal agencies. Based on these discussions, the CWCB identified the following process improvements to explore further:

1. **Improve Coordination**

- Coordinate review efforts by different state agencies.
- Coordinate EIS document review across state agencies with the goal of increasing efficiency.

2. **Increase Early Involvement**

- Examine opportunities for state agencies, local governments, stakeholders, and federal agencies to get involved earlier in the NEPA process.
- Involve NEPA and CWA Section 404 lead agencies (if applicable) at the very initiation of project planning to assure a concurrent (vs. sequential) planning process. This will facilitate early identification of required planning steps and information needs.

3. **Coordinate Technical Methods**

- Reduce duplication of technical methods across state agencies, respecting the various authorities and obligations within existing law.

4. **Increase State and Other Resources**

- Shorten the length of time to complete the required environmental reviews while maintaining a robust decision-making process.
- Evaluate potential future state staff demands and associated resources to complete the reviews in a timely manner at the beginning of permitting process. .

5. **Increase Clarity**

- Increase understanding of the information required for environmental reviews.
- Identify required technical elements, assessment methodology, and results of reporting of environmental parameters, including hydrology, conservation, scenario planning, water quality status and designated uses, modeling applicability, and risk tolerance.
- Understand the role of conservation in purpose and need development.
- Develop a state certification and mitigation handbook for project proponents and stakeholders.

6. **Improve the Quality of Draft EIS Documents**

- Enhance efficient completion of state certification, federal permitting, and mitigation plan processes.
- Emphasize issue identification earlier in the EIS process by involving all parties with a decision-making role and by collecting baseline environmental data.

7. **Encourage Multi-purpose Projects**

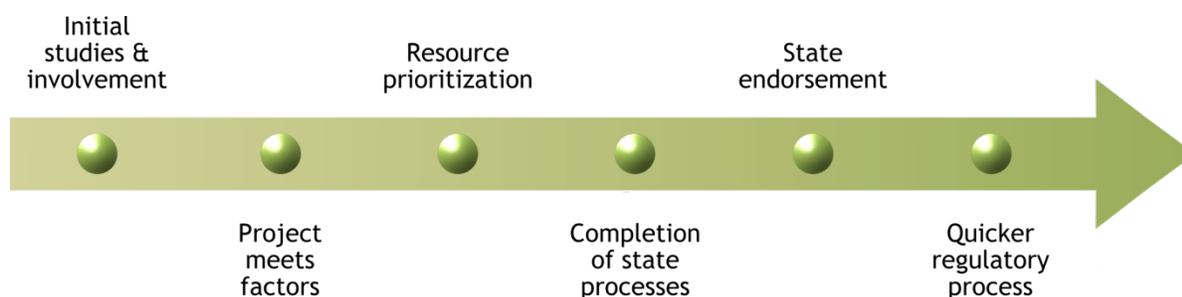
- Facilitate projects with multiple objectives such as municipal, industrial, hydropower, environmental, recreation and agricultural by increasing sources and availability of funding for these types of projects.
- Explore opportunities to streamline permitting processes, to equitably allocate mitigation responsibilities, and to provide state support and endorsement for these types of multi-purpose projects with project proponents and other beneficiaries.

Potential Conceptual Framework for State of Colorado Support of a Project

The State of Colorado could develop a more effective and efficient pathway for a water project to receive state endorsement (Figure 9.4-1) while continuing to uphold state and regulatory review responsibilities. The state could identify milestones and decision points at the beginning of the process to reduce, rather than increase, regulatory burdens on project proponents.

A conceptual framework is explored below to encourage more discussion among state agencies and stakeholders.

Figure 9.4-1: Conceptual Framework for a Project to Receive State Endorsement



Initial Studies and Stakeholder Involvement

If technical or financial support is being sought for initial planning, baseline environmental studies, alternatives analysis, feasibility studies, or initial stakeholder involvement priority should be given to projects that:

- Meet the goals and measurable outcomes identified in the BIPs,
- Have a project proponent,
- Meet an identified need, and
- May be built within the next fifteen years

Preference should also be given to projects that seek to be multi-purpose, have multiple partners, and collaborate with a broad set of local stakeholders.

Project Meets Factors

Project proponents who participate in the cooperative approach should commit to factors that align the project with Colorado's Water Values (see Chapter 1):

- Addresses an identified gap through one of the following:
 - Is identified in a BIP
 - Meets a defined need in a basin needs assessment
 - Meets a defined need in the Statewide Water Supply Initiative

- Is identified as being needed as part of no-and-low regrets
- Demonstrates sustainability
 - Provides a conservation plan or plans aimed at reducing demands
 - Includes environmental mitigation and enhancements in the planning phase
 - Mitigates or avoids impacts to or enhances water quality, and
 - Mitigates or avoids impacts on agricultural and rural community^j
- Involves local government consultation
- Includes a stakeholder and public input process
- Establishes fiscal and technical feasibility

State Resource Prioritization

With these factors, the State could commit to a resource-intensive approach at the beginning of the permitting process if more state resources become available. This would include coordination with local governments and stakeholders as well as be cooperating agencies through the federal permitting process. Cooperation would need to occur at critical decision points, including scoping, methodological review, alternatives analysis, and development of mitigation and enhancement opportunities. In addition, this process could use a coordinated dashboard approach, defining goals, timelines, and necessary permits. Existing regulations suggest that a coordinated approach is allowable under existing state law. For instance, regulation number 82.5(C)(2) states, “Where possible, the 401 certification process should be coordinated or consolidated with the scoping and review processes of other agencies which have a role in a proposed project in an effort to minimize costs and delays for such projects.”⁷⁹

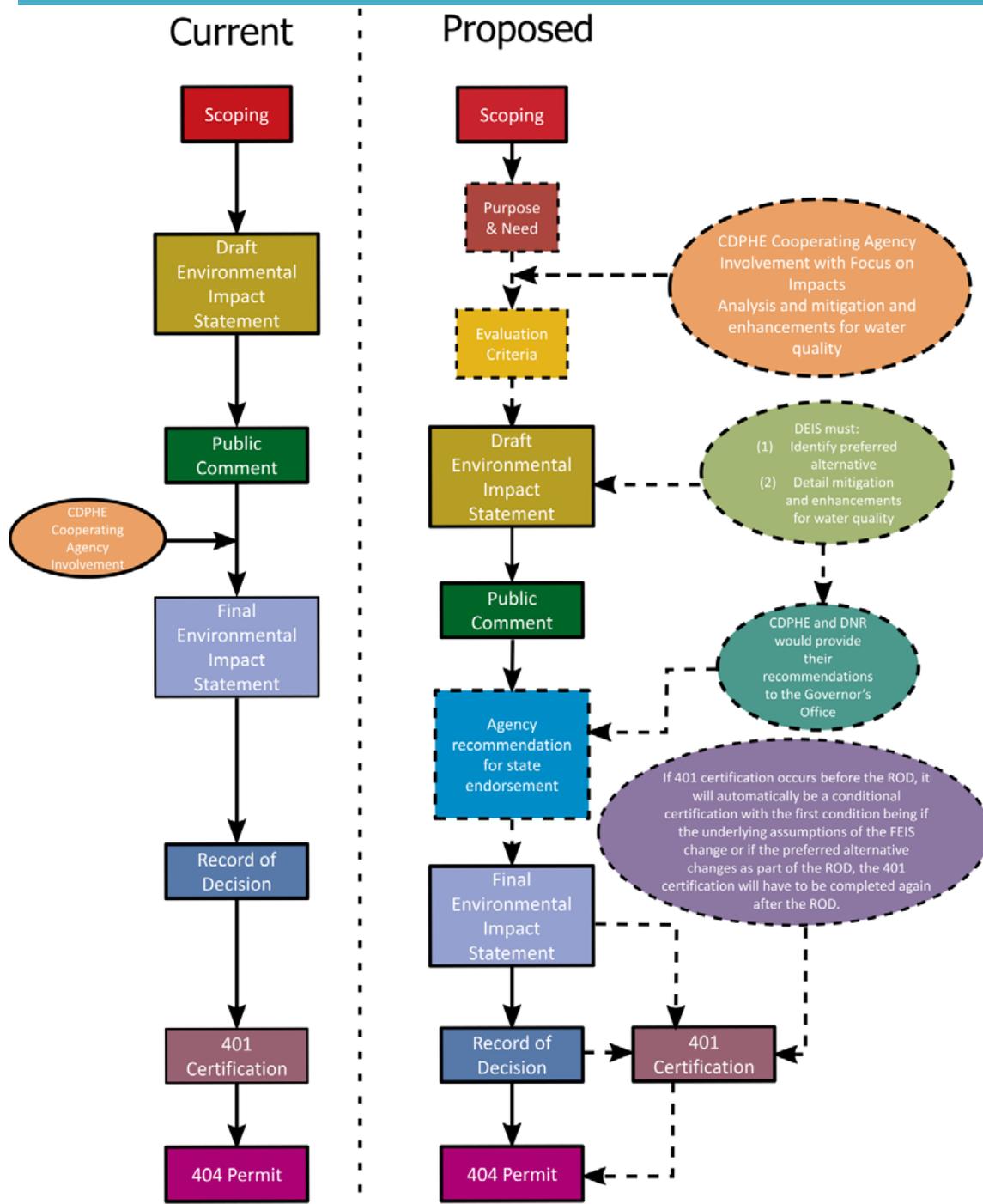
Preliminary Technical Review for State Processes

The current state processes for involvement in the federal 404 permitting process are summarized in Figure 9.4-2. The DNR’s wildlife mitigation process is guided by CRS 37-60-122.2. In 1987, the Colorado General Assembly passed HB 1158 which created a process by which agencies within the DNR come to consensus regarding fish and wildlife impacts from water resource development projects and the mitigation of such impacts. The statute establishes (among other things) a process that involves a project’s proponent, the Parks and Wildlife Commission, and the CWCB that results in the state’s official position on the mitigation of fish and wildlife impacts associated with the development of water resources for the state’s citizens. Historically, this process is initiated by the project proponent’s presentation of a draft mitigation plan to the Commission after which CPW staff has 60 days to review the proposed plan and provide further input to the Commission. At the end of a 60 day period, the commission and project proponent must agree upon a plan or the different versions of the plan are forwarded to the CWCB for their separate deliberation and decision. If the Commission and proponent agree, the CWCB simply endorses that agreement and that becomes the official state position. If the CWCB disagrees with the plan and modifies it in any way, it goes to the Governor to affirm or modify the plan resulting in the official state position. Irrespective of the route that the plan has taken, the official state position is then transmitted to each local, state and federal governmental entity. The statute and process is constructed in such a way that it

^j This could take the form of an agricultural impact statement.

encourages agreement between the project proponent and CPW – this greatly reduces the amount of time that this process takes thus resulting in an expedited state regulatory process.

Figure 9.4-2 State Involvement in Federal 404 Permitting Process



The CDPHE involvement in the federal 404 permitting process has typically occurred towards the end of the permitting process. The CDPHE's participation as a cooperating agency has generally occurred after a draft EIS is issued. Additionally, the CDPHE has typically waited until the project's Record of Decision has been completed before its official 401 certification review process.

As discussed above, if resources are prioritized for earlier state agency involvement in the federal permitting process, improvements to the current state process could be implemented. The State has an obligation to not be pre-decisional in 401 certification and wildlife mitigation plan processes. However, earlier state agency involvement in the EIS process would allow for early identification and resolution of state concerns which should result in a high quality draft EIS. This early state agency involvement could be accomplished by using the steps highlighted in Figure 9.4-3. As shown in Figure 9.4-3, the CDPHE could be involved earlier in the EIS process. In this case, much of the State's review work could be done prior, during, and immediately after the Draft EIS process.

The CDPHE's involvement could start shortly after the project proponent establishes the objective for the project or as the project proponent develops evaluation criteria for the EIS alternatives analysis. The CDPHE's input on the evaluation criteria is critical as the State's methodologies for assessing water quality should be used in the EIS process. In addition, with early involvement the CDPHE's input on mitigation and enhancements could also be included in the Draft EIS.

Once the Draft EIS is completed, the CDPHE and CPW's review of comments from stakeholders and local government on the DEIS would give the State a good idea on regarding support for the project and/or any outstanding issues related to the project

Resulting from early involvement in the projects development or scoping, the CDPHE would evaluate whether the preferred alternative adequately addresses water quality impacts, and includes sufficient mitigation and enhancements for water quality. Likewise CPW staff would have had early communication and collaborative efforts with the project's proponents and would have already initiated work on the framework of a mitigation plan for the project. Then, at the appropriate time (after the publication of the Draft EIS and after the 122.2 process has been completed), each agency would then provide the Governor's office their recommendations on the project. The CDPHE's recommendation would most likely be in letter form and would specify whether the CDPHE could certify the preferred alternative identified in the DEIS. The CDPHE would provide this recommendation after the DEIS public comment period. Because the specific project that is ultimately permitted through a 404 permit must be certified with a 401 certification and the 404 permit cannot be issued before the completion of the EIS, 401 certification needs to occur after the Final EIS. However, if state processes are coordinated during the DEIS, as noted above, then, unless the preferred alternative changes or underlying assumptions of the DEIS change, the 401 certification could be completed after the EIS is issued, provided that all required processes for public notice and review per Water Quality Control Commission Regulations #21 and #82 are followed. If the 401 certification is completed before the ROD, it would automatically be a conditional certification with the first condition being that if the underlying assumptions of the EIS change or if the preferred alternative changes as part of the ROD, the 401 certification will have to be completed again after the ROD.

Potential Fish and Wildlife Mitigation Process Changes

The legislation that created the 122.2 process for the mitigation of fish and wildlife impacts associated with water project development is somewhat constraining in that official communications between the project proponent and CPW staff are not initiated until after the release of a Draft EIS. Further, 122.2 has some rigid timelines that make it difficult for project

proponents and CPW staff to jointly develop a quality comprehensive mitigation plan. It is also difficult for stakeholders' early engagement in the process. Also, currently there is little written guidance (outside of the words in the statute) for either project proponents or stakeholders. Therefore, the DNR and the Parks and Wildlife Commission should develop a written policy, administrative directive, or formal rules regarding the implementation of the provisions of 122.2. This written policy should encourage and provide an avenue for early communication and collaboration between project sponsors and CPW staff regarding impacts and mitigation strategies. The policy should also provide an avenue for early stakeholder engagement on the mitigation of impacts.

State Endorsement

If improvements to the state's involvement in the permitting process are implemented as described above, the State could provide endorsement of the project before the Final EIS. As described above, each state agency would provide their recommendations to the Governor's office that could then communicate to the appropriate federal agency that the State supports or does not support a given project.

Quicker Regulatory Process

Such state endorsement would allow the State to encourage completion of the EIS and ROD.

Actions

One of the main goals of the Colorado's Water Plan is to find ways to support the implementation of the BIPs. Increased efficiency in the permitting process, while not predetermining the outcome and supporting the statutory and regulatory requirements of each permitting agency, is a significant way to assist project proponents. While the decision could be "yes" or "no," having a decision, no matter the outcome, would be beneficial to the state planning process and help remove uncertainty. The actions below help to find efficiencies where possible and increase coordination. In addition, these actions will provide an incentive that encourages multi-purpose projects with many partners, especially for project proponents that meet Colorado's water values, such as enhanced conservation and efficiencies. In addition to the chapter of the water plan, a handbook will be developed, which details the status quo and a "new" joint review process. The following actions are needed to support these efforts:

1. The CWCB will host a series of lean events with relevant permitting agencies and stakeholders to examine current processes and determine how to make them more efficient and effective. The lean events will specifically examine how to eliminate redundant review efforts, reduce duplication of technical methods, and increase clarity on the required technical elements, and assessment methodology.
2. The DNR will coordinate the development of a permitting, certification and mitigation handbook in partnership with local, state, and federal agencies.
3. State agencies with permitting authority will actively participate as a cooperating agency from the outset of the regulatory process and parallel processes are encouraged.

4. Where more than one agency has jurisdiction over a particular issue, a lead state agency will be identified.
5. The State of Colorado will explore options for adding CDPHE and DNR staff and other resources to support a more efficient and effective permitting process.
6. The will work with state and federal partners to encourage cooperation through the CAWS MOU process, which factors conservation in as a demand reducer.
7. State agencies with permitting authority will work with local governments and stakeholders to determine how Colorado will endorse a project after preliminary or contingent 401 certifications and fish and wildlife mitigation plans are completed.

Table 9.4-3: Summary of the IBCC No-and-Low-Regrets Action Plan and the BIP Comments on Permitting⁸⁰

IBCC & Basin Roundtables	Challenges	Solutions
<p>IBCC No-and-Low-Regrets Action Plan</p>	<p>"Needs assessment work conducted as part of the SWSI determined that every basin in Colorado will have a gap in water supply by 2050... Expedited permitting processes for IPPs that are in line with the values of the CWP will ensure that important projects move forward in a timely manner."</p>	<p>As part of the No-and-Low-Regrets Action Plan, the IBCC considered several potential actions in relation to permitting:</p> <p>As part of the No-and-Low-Regrets Action Plan, the IBCC considered several potential actions in relation to permitting:</p> <p>"Streamline state permitting processes for IPPs that meet values of the CWP: The Executive Order directs the CWP to help expedite permitting at the state level. The State should develop an approach to permitting IPPs that efficiently moves projects through the process and toward an outcome, whether positive or not, while ensuring sufficient protection of nonconsumptive and other values. Public engagement and community outreach regarding water supply needs may need to increase in affected communities to facilitate an efficient permitting process."</p> <p>"Continue state coordination with the federal permitting entities: The State should continue to meet with federal agencies and look for opportunities, including entering into MOUs, to make NEPA and permitting processes more efficient, especially for projects that meet the values of the CWP and are needed across multiple scenarios. Efficiency would not dictate whether the outcome of the positive is positive or not."</p> <p>"Support local permitting authorities to identify, as requested, multi-purpose components up front in a project planning to incorporate county and local concerns."</p> <p>"Upon request of a project proponent, encourage legislative resolutions in support of IPPs that meet the values of the CWP: the CWCB and the IBCC should work with the Legislature to develop and pass resolutions in support of specific IPPs that meet the goals and values of the CWP and have demonstrated broad stakeholder support. However, legislative resolutions supporting specific IPPs should not occur until the project 1) aligns with the goals of the CWP, 2) has broad stakeholder support, and 3) has substantively completed the state permitting process. These resolutions can be simple statements of support or more complex efforts to help specific projects through the permitting process, but they should not seek to override or supplant local decision-making or the protection of nonconsumptive or other values."</p> <p>"Publicly advocate for IPPs that meet the values of the CWP and have stakeholder support: the CWCB, members of the IBCC and the basin roundtables, and the Governor should actively and publicly advocate for IPPs that meet the values of the CWP and have demonstrated broad stakeholder support. However, public advocacy for specific IPPs should not occur until the project 1) aligns with the goals of the CWP, 2) has broad stakeholder support, and 3) has substantively completed the state permitting process. This advocacy should seek to convince decision-makers at all levels and the general public that permitting and</p>

Table 9.4-3: Summary of the IBCC No-and-Low-Regrets Action Plan and the BIP Comments on Permitting⁸⁰		
IBCC & Basin Roundtables	Challenges	Solutions
		<p>implementing these IPPs is critical to meeting Colorado's water supply needs while maintaining our agricultural heritage, healthy environment, and recreational economies."</p> <p>"Water providers that meet a certain threshold of conservation savings or best practices implementation could be offered state support and/or the facilitation of certain permitting approvals."</p>
Arkansas BIP	"Significant challenges exist to achieving the storage goals of the Arkansas Basin, including government permitting, regulation, competing stakeholder interests, and reluctance of storage site owners to take on further responsibility."	No permitting solutions mentioned.
Colorado BIP	<p>"Regulatory restrictions, high costs and variable geologic conditions have prevented proceeding with these conditional storage rights."</p> <p>"Water providers must recognize the change in permitting that has occurred and that has resulted in the lengthy and costly regulatory requirements for reservoirs. Rather than undertake this risk with no assurances of approval, water providers should consider other alternatives."</p>	<p>"This BIP recommends that State, Federal and Local regulatory jurisdictions work collaboratively to improve the permitting process."</p> <p>"Improvements to the permitting process to support new water supply projects are imperative in securing safe drinking water in the future."</p> <p>"Secure 401 certification for specific places prior to a ROD by the Corps, through a coordinated permitting process that includes all permitting agencies, including local government"</p> <p>Measurable Outcome: "Reduced average permitting time for reservoir project to under 10 years"</p> <p>"Improve inefficiencies in reservoir permitting process between federal agencies and promote revisions and BMPs to improve process timeline and cost"</p> <p>"Further research needs to be conducted that will evaluate the reservoir permitting process and provide recommendations on improvements."</p>
Gunnison BIP	Several of the project sheets	"Due to the numerous benefits to future water resource projects, the Gunnison Basin Roundtable

Table 9.4-3: Summary of the IBCC No-and-Low-Regrets Action Plan and the BIP Comments on Permitting⁸⁰

IBCC & Basin Roundtables	Challenges	Solutions
	<p>list permitting as a constraint and challenge. In these cases, the text typically reads: "Issues limiting project implementation may include: Regulations – permitting requirements may limit construction activities and potentially increase cost and timing."</p>	<p>recommends the reinstatement of a process similar to the CJRP or Colorado Coordination Council." In Strategies to address regulations, the following bullet points are included to streamline permitting or develop collaborative solutions: Collaborate with the CWCB to identify technical support mechanisms for Federal permitting activities Identify methods to proactively address potential regulatory pitfalls that generate excessive time delays and added costs Identify methods to streamline regulatory processes between multiple agencies with proactive, time-dependent deadlines Collaborate with the CWCB to identify financial support mechanisms for Federal permitting activities "Better management tools will optimize projects to meet multiple needs, minimize cost, and protect public health and safety. An example of this is the Extreme Precipitation Analysis Tool (EPAT). Reservoir storage restrictions currently cost the state some 74,000 acre-feet in lost storage opportunities. An updated EPAT would provide cost savings by minimizing necessary dam spillway sizes and would streamline the permitting process."</p>
<p>North Platte BIP</p>	<p>Regulations can be a constraint to securing acceptance of a project. Since a large amount of the land in the North Platte Basin is under federal ownership, permitting issues can impact project feasibility, cost, and schedule.... Regulatory bureaucracy and environmental impact requirements may significantly delay project timelines, increase costs and ultimately limit the ability of a project sponsor to implement a proposed project, regardless of the relative size of project</p>	<p>In Strategies to address regulations, the following bullet points are included to streamline permitting or develop collaborative solutions: Collaborate with the CWCB to identify technical support mechanisms for Federal permitting activities. Identify methods to proactively address potential regulatory pitfalls that generate excessive time delays and added costs. Identify methods to streamline regulatory processes between multiple agencies with proactive, time-dependent deadlines. Collaborate with the CWCB to identify financial support mechanisms for Federal permitting activities.</p>

Table 9.4-3: Summary of the IBCC No-and-Low-Regrets Action Plan and the BIP Comments on Permitting⁸⁰

IBCC & Basin Roundtables	Challenges	Solutions
	scope. Regulatory streamlining and cooperative strategies may help address regulatory constraints."	
Rio Grande BIP	No permitting challenges mentioned.	No permitting challenges mentioned.
South Platte and Metro BIP	<p>"In order to be developed, water supply, infrastructure, and treatment projects must go through a myriad of federal, state and local permitting processes which are both time and resource intensive. Improving the efficiency of current federal and state permitting requirements has the potential to save the public money while providing the same assurance of quality and due diligence. The Executive Order cites this issue and calls for the identification of potential areas of improvement in CWP. The intent is not to reduce existing environmental protections but to obtain permitting decisions in a more timely and cost effective manner with a more predictable process for federal and state engagement."</p>	<p>"The State of Colorado could support a more efficient EIS process for water supply projects.... Greater efficiency, cooperation, predictability, and consistency in the permitting process could be achieved by establishing guidelines for what the lead federal agency and all state and federal agencies involved in the process require for approval. Efficiency and predictability of the permitting process could be further enhanced by the State compiling agreed upon ranges, tools, and methodologies for assessing contentious topics such as hydrology modeling, system risk, conservation as a demand reducer, and others."</p> <p>"To increase the efficiency, consistency, and predictability of the EIS process, the State could work cooperatively with Federal agencies to develop a Programmatic EIS. Colorado's Water Plan could be used as the platform for a Programmatic EIS. Under a Programmatic EIS, no specific projects are approved, but it would create an analysis from which future specific approvals can rely."</p> <p>"Starting in 2010, the Corps, the DNR including the CWCB, and the US EPA embarked upon a process called CAWS. The major outcome of CAWS was an informal agreement among the three parties that conservation should be used as a demand reducer in analyzing the purpose and need for a project rather than during the alternatives analysis portion of the NEPA process. Though this informal agreement was not publicly documented, an important policy tool going forward could be the use of conservation as a demand reducer in the purpose and need segment of the EIS process. By doing this, water providers will have greater incentive to implement proactive conservation strategies to demonstrate decreased demand and strain on existing resources."</p> <p>"Scoping for 404 or NEPA permitting must follow federally required processes. Delays often result when new areas of analysis are identified late in the permitting process after scoping has occurred. By ensuring that regulating agency concerns are addressed in their entirety during the scoping process, applicants can more accurately plan for the costs associated with the analysis and avoid delays."</p> <p>"The State of Colorado could encourage the Corps and EPA Region 8 to revise their 1990 MOA on sequencing. Their current MOA says that the Corps must determine the Least Environmentally Damaging Practicable Alternative (LEDPA) first and then look at compensatory mitigation to authorize the LEDPA. A</p>

Table 9.4-3: Summary of the IBCC No-and-Low-Regrets Action Plan and the BIP Comments on Permitting⁸⁰

IBCC & Basin Roundtables	Challenges	Solutions
		<p>revision would enable public works projects to use compensatory mitigation in the identification of the LEDPA. This revision could be limited to public works projects."</p> <p>"The State of Colorado's requirement for 401 certification and an approved Wildlife Mitigation Process could be improved to provide project proponents greater certainty in project planning. Earlier starts for these approval processes could effectively utilize information from the Federal Process to save project proponents and the citizens of Colorado time and money while allowing for greater certainty of project implementation."</p>
Southwest BIP	No permitting challenges mentioned.	No permitting solutions mentioned.
Yampa/ White/Green BIP	No permitting challenges mentioned.	<p>"Develop methods to assist with streamlining permitting in a cost-effective manner."</p> <p>"Success in permitting and constructing in-basin storage projects."</p>

9.5 Outreach, Education, and Public Engagement

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 they 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 around 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 future supply gap. Section 9.5 focuses on the extensive work that has already occurred to help educate and engage over 24,000 local stakeholders and the public in the formation of BIPs and Colorado's Water Plan. Moreover, this chapter charts a path to expand this work in the future.

Coloradans are paying more attention to water issues today and 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 residents are unaware of the main uses of water in the state and uncertain of how to best meet Colorado'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, the catastrophic wildfires in 2012 and 2013, and the flooding on the Front Range in 2013—have increased the public's sense of urgency and 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 recent statewide outreach and education by the CWCB, over the past 10 years the nine basin roundtables held more than 1000 meetings to engage the public, and each roundtable held additional public meetings as they developed their BIPs. Additionally, many water providers, watershed groups, schools, districts, and authorities offer many ongoing water education activities. Currently, there are nonprofits solely dedicated to water education and water providers working with school districts to engage younger generations in smart water use. The recommendations in this section of Colorado's Water Plan involve strategies designed to continue to advance these outreach, education, and public engagement efforts to 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 and the Long expeditions through Colorado shared their experiences in the 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 on 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

The Colorado Foundation for Water Education (CFWE) was created by the General Assembly in 2002 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 Interbasin Compact Committee (IBCC) process. The PEPO Workgroup operates by basin and 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. The PEPO Workgroup is comprised of IBCC representatives, education liaisons from each basin roundtable, and other key stakeholders in the water education community. Under direction and funding from the CWCB, the CFWE facilitated the PEPO Workgroup from 2008-2015. In July 2015, the CWCB started managing the PEPO Workgroup directly.

Led and funded by the CWCB, several of the 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 that include:

8. Supporting a statewide public education initiative;
9. Developing information and communication tools that can be used statewide;
10. Establishing long-term funding for intrastate and interstate collaboration opportunities;
11. Coordinating efforts across state agencies; and
12. Increasing coordination with the Colorado Department of Education on K-12 water resource content.⁸⁷

The CFWE assumed management of the Water Education Task Force after the report was published in 2008. The CFWE established a partnership workshop that carried out several recommendations through the Colorado Water 2012 campaign, a celebration of water—past, present, and future. Colorado Water 2012 leveraged hundreds of passionate volunteers, nonprofits, and other organizations to raise awareness about water, increase support for 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, commissioned by the CWCB, which consisted of a statewide survey and report of public opinions, attitudes, and awareness regarding water in Colorado.⁸⁹

There are numerous efforts that address public engagement in Colorado's water supply issues. Below are just a few examples. As Colorado's Water Plan is finalized, the groups listed below, in addition to other groups not included here, will serve as critical resources in implementing the outreach, education, and public engagement actions identified by the plan.

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 Colorado Department of Public Health and Environment, funds outreach efforts to improve water quality through Section 319 of the "Clean Water Act" of 1972.
- Colorado Parks and Wildlife 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 Colorado Parks and Wildlife 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 Water Efficiency Grant Program for water conservation projects and also helps to fund the CFWE. In 2013, the CWCB hired an outreach, education, and public engagement specialist to manage these efforts.

Statewide Nongovernmental Organizations (NGOs): Various nonprofit organizations with a statewide reach have water education programs. These groups have specific target audiences and distinct objectives related to water supply planning.

- 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 principle 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.
- There are many membership-based, environmental and recreational NGOs, such as Conservation Colorado, Trout Unlimited, the Audubon Society, The Nature Conservancy, and Western Resource Advocates that provide outreach and education to their members on many environmental issues. This list is not fully inclusive.

Universities: There are several institutions of higher education 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 their 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 fixture and landscape retrofits. Denver Water uses community based social marketing and media in addition to more traditional campaign methods like advertising.
- Colorado Springs Utilities reaches over 5000 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 similar conservation-based outreach program known as the Drought Response Information Project, which helps water providers conduct public outreach and education activities about drought and the Drought Response Plan.
- The Rio Grande Watershed Conservation and Education Initiative provide 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 it is the longest-standing program of its kind.
- The Rio Grande Watershed Conservation and Education Initiative assisted the Rio Grande Basin roundtable in their engagement efforts along with many other education programs.
- Aurora Water's Water Conservation Program offers web-based instructional material and in-person classes in xeriscape landscaping, irrigation systems, landscape maintenance, alternatives to turf grass, and vegetable gardening to its customers.
- The Community Agriculture Alliance assisted the Yampa/White/Green Basin Roundtable with public education and outreach on the BIP.

K-12 Education: Water providers statewide 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 across the state. Other numerous efforts through water conservancy districts reach thousands of students

each year at children’s water festivals and special initiatives with 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 6000 students a year with K-12 education programs providing classroom presentations, assemblies, and field trips.
- Boulder and Aurora school districts partner with the United States Forest Service to train teachers on water education through the “Forests to Faucets” workshops.
- Project WET (Water Education for Teachers) is a national program that trains teachers in Colorado 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

Despite the immense efforts of various organizations, projects, and partnerships, there is a need for improved coordination of existing programs to maximize their effectiveness. Collaboration creates new opportunities for water education, outreach, and public engagement activities to target new and diverse audience groups statewide. Moreover, there is a need to reassess existing statewide programs that focus on water supply requirements and solutions. The plan will build upon efforts such as the Colorado WaterWise Education Toolkit, the Colorado Watershed Assembly Network, and the CFWE’s ongoing Water Educator Network. Additionally, the 2008 Water Education Task Force Report recommendations should be updated in the near future, allowing the community to determine what unmet needs exist and identify the most effective strategies to address them.

Figure 9.5-1 CWCB Education Funds Used Per Fiscal Year

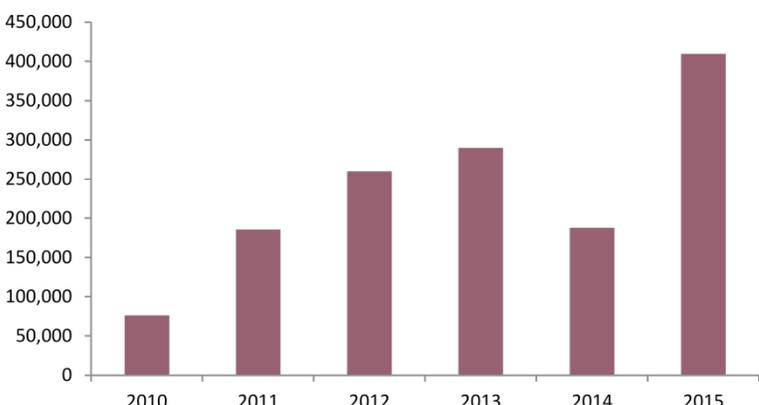


Figure 9.5-1 includes the total amount of CWCB funds allocated for education including PEPO funds, Education Action Plan funds, WSRA funds for educational projects (not including BIP contract funds), Water Efficiency Grant Program Public Education Grants, and the annual funds given to the Colorado Foundation for Water Education. The chart does not include outreach and education funds used by consultants for BIPs.

The Funding Gap

During the development of Colorado’s Water Plan and the BIPs, it became clear that the \$2000 of 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 used a creative mix of funding sources including Water Supply Reserve Account (WSRA) grants and billed services from 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 Water Efficiency Grant Program Public Education and Outreach grants, the annual allocation from CWCB to CFWE, and related WSRA grants.

The state funding provided for the roundtables is not sufficient for the level of outreach they need to succeed. On average, the costs for outreach activities have been between \$15,000 and \$50,000 per roundtable over the past year; nevertheless, most roundtables have indicated that for their level of current BIP outreach this amount is insufficient. The Rio Grande Basin Roundtable, for instance, spent an additional \$40,000 on outreach beyond what was originally planned, and already projects that with increased funding they could spend up to an additional \$10,000 for activities outlined in their 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. Education and outreach cannot rely on a dedicated volunteer base alone, which has been the approach for many basin roundtables over the past five years. All 17 of the Arkansas Basin roundtable's outreach meetings were organized and run by volunteers.⁹³ Despite insufficient funds, each roundtable increased their outreach activities, which is impressive.

In the future, the roundtables may struggle to maintain this level 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 with respondents indicating that \$1.6 million of that amount came from state sources.⁹⁴ Monetary and time limitations were cited as the largest barriers to implementing education programs—more than half of the water education providers surveyed indicated they conduct water education for less than \$5000 annually. The report stated that limited resources should provide additional incentives and focus for federal and state funding agencies.⁹⁵ Should funding be created, some of it should be allocated to the basin roundtable work, as well as other important efforts.

It is imperative that the Colorado water community sustain the momentum for outreach and education activities once the development of the BIPs and Colorado's Water Plan conclude in 2015 and that funding for such activities increases as water supply solutions are implemented.

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

Outreach, education, and public engagement related to the state's water supply planning efforts, including Colorado's Water Plan, the BIPs, and the Statewide Water Supply Initiative are ongoing and iterative efforts. The CWCB needs to continue the leadership it has 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 developed by these entities over the past several years will be crucial for public outreach and education activities and to solicit 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 in which additional media coverage and public participation is needed.
2. Identify the institutional changes necessary to address increasing water demands and the related cultural and economic adaptations in Colorado life.
3. Ensure a diverse and active basin roundtable membership and provide communication tools to inform their constituents, and in return, deliver meaningful feedback to the roundtables.
4. Maintain a steady, traditional, online, and social media presence throughout the basin.
5. Engage respected community leaders to champion the solutions set forth in the BIPs.
6. Work closely with organizations that specialize in the facilitation of public education and outreach programs to leverage existing resources within each basin to increase overall impact.
7. Enhance coordination and financial support for watershed groups and other grassroots organizations to effectively engage the public and increase participation.
8. Develop leadership programs for 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 for 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. The basin roundtables were created to serve as key forums for conversation and planning to address water supply issues. Creating a new fund creates the opportunity for stakeholders interested in water outreach, education, and public engagement to move important projects forward.

Through this new fund and as recommended in the actions set forth at the end of this section, CWCB should work with state, local, and federal partners to develop a water education and outreach strategy that includes, but is not limited to, the topics listed below they relate to Colorado's Water Plan. These topics are explicitly mentioned within Colorado's Water Plan; however other topics will likely be added to the education and outreach strategy as it is developed:

- Colorado's Water Plan
- Colorado's eight Basin Implementation Plans
- Colorado's water challenges, solutions, and the need to be adaptable to changing conditions

- Connection between climate change and water
- Water conservation & reuse
- Integrating land use and water supply
- Water quality – “use a watershed approach for outreach and community engagement.”
- Agricultural viability options, alternative transfer methods (ATM), 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 for imperiled warm water fish species, cutthroat trout, and forest health
- Outreach to energy companies to encourage and promote the most water efficient technologies for energy extraction

Outreach, Education, and Public Engagement Activities for Colorado’s Water Plan

Colorado’s Water Plan outreach, education, and public engagement efforts are unprecedented and build on a decade of stakeholder involvement. During development of Colorado’s Water Plan, the CWCB received over 24,000 comments before the second draft of the plan was released in July 2015. Because Colorado’s Water Plan rests upon stakeholder engagement, it is critical to highlight the education and outreach efforts to date. This is a grassroots effort and this section demonstrates the high level of local and volunteer efforts to reach out to the public.

Statewide Outreach, Education, and Public Engagement Activities

Throughout the development of Colorado’s Water Plan, public engagement, coupled with consistent and clear communications, has been crucial. Both statewide and within each basin, information has been distributed to the water community, to interested stakeholder groups, and to the general public. These activities built upon the strong foundation of outreach efforts by the basin roundtables and the CWCB through the PEPO Workgroup over the past ten years. The CWCB developed an Outreach and Communications Plan in September 2013 to provide a cohesive strategy and structure for all Colorado’s Water Plan communications and outreach activities. The outreach and communications plan was crafted around four clearly defined goals, listed below. Table 9.5-1 provides a review of the methods used to achieve those goals. Following the table is an analysis of the input generated from these activities.

The outreach and communications plan goals are:

- To engage the public and to create general public awareness and dialogue about Colorado’s Water Plan and its role in ensuring a secure water future for Colorado;
- To build support within the water community for Colorado’s Water Plan and increase the level of understanding of the plan and its components;
- To proactively identify and address issues that may create barriers to success for Colorado’s Water Plan and mitigate and manage negativity; and
- To share the responsibility of implementing and executing communications about Colorado’s Water Plan across the CWCB leadership and key stakeholders to foster a collective voice.

Table 9.5-1: Outreach Methods

Basin Roundtable Engagement	The CWCB and basin roundtables (through PEPO and BIP consultants) developed communication materials and messaging about Colorado's Water Plan and BIPs
Grassroots Stakeholder Group Outreach	The CWCB established and used a database of key community, civic, and water organizations (e.g., Chambers of Commerce, Colorado Municipal League, Water Congress, and regional advocacy groups, among others) with established communications networks (websites, newsletters, email updates, etc.) to partner with to distribute Colorado's Water Plan materials. The CWCB engaged these groups in the development of the plan and distributed information to their constituents. These groups also provided important speaking opportunities at various meetings and gatherings.
Public Input and Response	The CWCB solicited public input for all communication materials related to Colorado's Water Plan. The agency built a public comment form into the Colorado's Water Plan website, and established a new email account (cowerplan@state.co.us) to receive public input. Also created were guides for submitting public input. All comments received and the staff responses are available for review online. At each of the CWCB Board Meetings from September 2013 through September 2015, an opportunity for public input was provided to encourage comment regarding Colorado's Water Plan. The CWCB also encouraged members of the public to engage directly with their basin roundtables.
Media Relations	The CWCB worked with the press to clearly articulate Colorado's Water Plan development process and to establish a foundation of knowledge and awareness in the media.
DNR/CWCB/IBCC Leadership Presentation Circuit	Meetings with the DNR, the CWCB, and the IBCC leadership helped enhance understanding of and build support for Colorado's Water Plan in the water community. The CWCB met and worked with over 100 key organizations and individuals listed in Appendix E. In coordination with the IBCC and the basin roundtables, the CWCB identified representatives from geographically diverse areas who spoke about Colorado's Water Plan in various forums across the state. This included engaging key partners (e.g. agricultural and municipal water providers). The CWCB arranged speaking engagements, and developed materials and training sessions for spokespeople. As appropriate, staff conducted targeted pre-event outreach and follow-up to increase stakeholder attendance at important events and created opportunities for additional interaction and dialogue.
Materials and Branding	The CWCB developed an overarching brand (logo, templates, and consistent look and feel) that reflected Colorado's Water Plan purpose and values. The CWCB developed a suite of printed materials. The materials are available for download on the Colorado's Water Plan website and were distributed as to community at speaking engagements and conferences.
Digital Engagement – Web and Social Media	The CWCB developed a robust online presence for Colorado's Water Plan that served as a hub for stakeholders and the public to obtain information, subscribe to updates, provide input, and get involved with the process. Strategy included a Colorado's Water Plan website, social media channels, and targeted email

Table 9.5-1: Outreach Methods

campaigns tied to key milestones such as the release of the BIPs. The website included a master calendar of events to promote existing opportunities to reach key stakeholders. The CWCB created Facebook and Twitter accounts and integrated them into the Colorado's Water Plan website. The CWCB launched and promoted the accounts through a variety of channels, including the website and email campaigns. These social media tools continue to provide an informal and interactive venue for dialogue and the exchange of ideas. The CWCB staff monitor and administer these accounts and regularly post relevant information, answer questions, and participate in the conversation.

Input Generated on Colorado's Water Plan Between September 2013 and May 2015

Since work on the first draft of Colorado's Water Plan began in September 2013 through May 1, 2015 the CWCB received, reviewed and responded to over 24,000 comments for consideration in the second draft of the plan. Those comments included over 1000 unique submissions and over 20,000 form letters. Over 250 documents were also reviewed. To date, the CWCB staff members have with over 150 organizations, agencies, and other partners statewide regarding their involvement in the development of Colorado's Water Plan. A list of those organizations is included in Appendix E.

Pursuant to SB14-115, the Water Resource Review Committee (WRRRC) held public hearings in each basin during summer 2014 for comment on Colorado's Water Plan.⁹⁶ Input submitted to the CWCB on November 1, 2014 included over 200 public comments. The WRRRC will hold additional hearings during summer 2015 and the input received will be summarized in the final draft of Colorado's Water Plan.

How is public input being included in the development of Colorado's Water Plan?

Input submitted by email to cowaterplan@state.co.us or through the webform on Colorado's Water Plan website, is read by members of the CWCB's staff, who then identify which section of Colorado's Water Plan each comment addresses and draft a tailored response. All input is catalogued and presented at the subsequent CWCB Board meeting and can be found on www.coloradowaterplan.com under the "Get Involved" tab, on the "Record of Input Received to Date" page. Public input was considered as the CWCB staff prepared the second draft of Colorado's Water Plan. There is a public comment period that ends September 17, 2015 before the final draft of Colorado's Water Plan is submitted to the Governor no later than December 10, 2015. The CWCB will also continue to forward input related to specific basin roundtables to the basin outreach teams as they move forward with implementation.

Colorado's Water Plan website

Colorado's Water Plan website launched on November 1, 2013 to provide outreach and education resources on Colorado's Water Plan. The CWCB promotes the website through social media, the CWCB staff presentations, and publications related to Colorado's Water Plan. To date there has been a steady rise in the number of people visiting the website each month. Through June 30, 2015 there were over 12,000 unique visitors to the website.

The website will continue to be the primary access point for the public to review and comment on the second draft of Colorado's Water Plan. Other documents and information will continue to be made available on the site, including the BIPs, all input on Colorado's Water Plan received directly by the CWCB, and the formal responses provided to commenter's by the CWCB.

Basin Outreach, Education, and Public Engagement Activities

This section provides an explanation and summary of the basin roundtable and PEPO outreach efforts, over the development phases of the Basin Implementation Plans and Colorado's Water Plan. Each basin's PEPO education liaison and roundtable leadership supported information and input opportunities. The scope of these efforts far exceeds any other period of voluntary, roundtable driven outreach activities and the impact of these programs was realized through a significant increase in public engagement and ultimately an inclusive, comprehensive, and supported water supply planning process.

Data captured during the BIP process has provided quantification on:

- The number of technical outreach meetings held by each roundtable, the BIP consultants and stakeholder groups to identify specific water needs and projects;
- The number of dedicated public meetings to obtain responses to the BIP goals, needs assessments, and proposed projects;
- The number and type of attendees at each stakeholder and public meeting;
- The type of input the roundtables received;
- How the input was factored into the BIPs;
- The other outreach activities of each roundtable; and
- A summary of future planned outreach activities.

Between February 2014 and April 2015, the basin roundtables collectively hosted over 150 dedicated public meetings, in addition to regular basin roundtable meetings. All in all, nearly 4000 participants were counted among those basin roundtables that collected data on attendance. A summary of these meetings by basin can be found in each BIP. In addition to hosting public meetings, the roundtables employed innovative approaches to education and outreach. They published hundreds of local newspaper articles, participated in radio shows, developed and maintained websites to share BIP information, produced printed materials to hand out at local events, gave presentations at various community events, surveyed basin residents on BIP issues, solicited public input and incorporated comments into their BIPs, and targeted diverse stakeholder groups and individuals basin-wide. A total of 954 public comments from the three reporting basins that tracked that data were documented and incorporated in the final BIP documents. Most basins did not have the capacity to report on this level of detail.⁹⁷

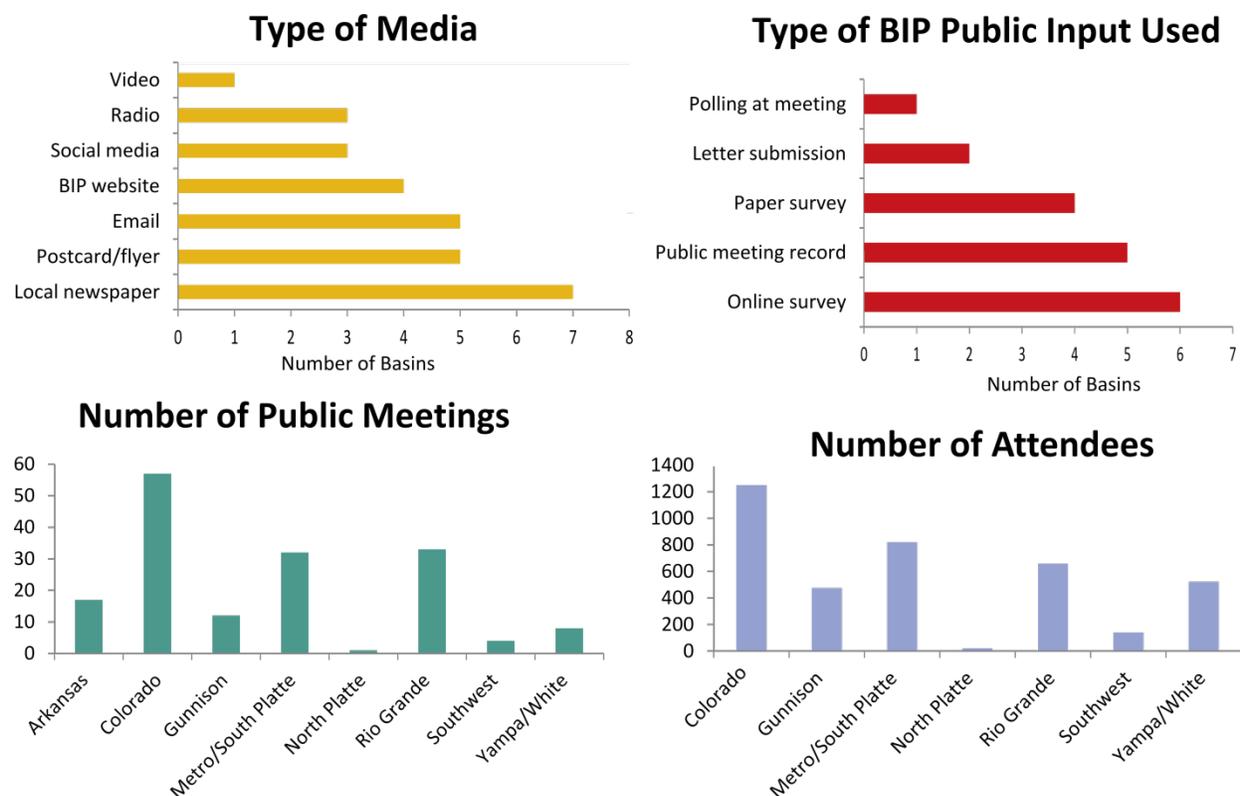
Sustaining Long-term Strategies

In addition to assistance from the BIP consultant teams during the drafting of the respective BIPs, each basin roundtable used their Education Action Plan to guide their outreach strategies, utilizing the \$2000 available annually (which increased to \$6500 annually beginning fiscal year 2016)

through the PEPO Workgroup. Many roundtables used current funds and staff to implement outreach activities while others sub-contracted with the BIP consultants or are relied on external partnerships. Some basins used WSRA grants to fund more comprehensive education and outreach programs. Regardless, all the roundtables collaborated with their outreach teams more than ever before and it will be imperative to consider how to sustain this momentum into the future.

The extent and detail of each basin's education and outreach efforts can be found in those respective sections of their BIP. In comparing the commonalities of these long-term strategies, all basins articulated the need for active roundtable membership, coordinating partnerships, defining critical audiences and building relationships with key constituencies. The following section features a unique activity in each basin on how public viewpoints were incorporated over the course of the BIPs as well as the outreach strategies identified by the basin that are critical as they move forward.

Figure 9.5-2: BIP Public Meeting Data



Arkansas Basin

Featured Activity

Through the outreach efforts of the BIP process, the Watershed Health Working Group, in partnership with Colorado Springs Utilities and funded through a WSRA grant, brought together basin roundtable members, representatives from federal and state natural resource agencies, NGO

stakeholders, and local government officials. The group worked on strategies to improve communication and collaboration between entities responding to watershed health-related threats and events, developing value maps and an action plan for the basin. An outcome of this internal capacity-building process was the creation of the Arkansas River Watershed Collaborative.

Featured Strategy

Acting as a catalyst to productive partnerships among community leaders, media outlets, and active citizen groups, the basin plans to undertake a structured public relations effort to maintain and improve relationships with individuals and organizations while enhancing efforts to educate various stakeholder groups on the purpose and progress of the water planning process in the Arkansas Basin, such as a white paper for public policy makers. These efforts will require significant resources to define critical audiences, craft calls to actions and measure effectiveness of communication channels.

Colorado

Featured Activity

Outreach during the BIP process included a WSRA grant with Colorado Mesa University's Water Center to solicit input from the public through online surveys advertised by a series of newspaper articles, open discussions at 57 meetings for 1250 attendees, as well as comment letters and emails. Working with Roaring Fork Conservancy, Eagle River Watershed, Trout Unlimited, and Club 20, surveys collected over 500 responses from adult audiences and student groups, reflecting significant concern about future water supplies and the health of the environment in the Colorado Basin. It was from this data collection that the six major "themes of the basin" were developed.

Featured Strategy

The basin roundtable plans to use the partnerships and communication channels developed through the process of conducting outreach on the BIP to continue to educate the public on the activities of the basin roundtable and regional and statewide water needs, and to encourage their input on how these needs should be met. The results of these activities will be shared with the CWCB as their planning efforts continue. Longer term strategies will engage the public on the water challenges and opportunities in the basin and statewide, maintaining a steady presence in both traditional and social media and ensuring members and partner organizations have the tools to inform their constituencies and collect public input on basin roundtable issues.

Gunnison

Featured Activity

The development of the BIP prompted an organized outreach effort with representatives from each of the six sub-basins of the Gunnison Basin, including educational entities and watershed groups. The resulting information-and-input opportunities utilized *The Gunnison River Basin, A Handbook for Residents*⁹⁸ for town hall meetings with the general public to obtain responses to the goals, needs assessments, and proposed projects. Overall input demonstrated strong support for the BIP Basin Goals and Statewide Principles.

Featured Strategy

A long-term strategy focuses on engaging non-roundtable stakeholders to contribute input and feedback on key BIP elements to help the basin roundtable reach out to potential new project proponents and partnerships. To help address the basin's water needs, various concepts and activities are encouraged by 2025, such as educating the next generation and political leaders and research on climate change adaptation and the ten "tier one" projects within the BIP. Due to limited resources, the successful continuation of education and outreach activities will require careful coordination with existing organizations, programs and resources.

Metro/South Platte

Featured Activity

During the development of the draft and final BIP, a total of 32 public meetings were hosted in unique locations across the basin and publicized through local media. At least 820 participants attended representing a wide variety of interests including agriculture, municipal, industrial, business, recreation and environmental. Public and stakeholder comments were collected via survey during the meetings and shared with the basin roundtables for analysis and incorporation into the joint BIP.

Featured Strategy

A facilitated Metro/South Platte basin education committee workshop will identify the staffing and coordination needed to identify common priorities and develop implementation strategies. An initial strategy is a joint communications plan targeted at stakeholders, including water users, political leaders, and leaders of major businesses and industries throughout the state. This plan will maximize existing opportunities and avoid duplication of efforts to generate a lasting baseline of public awareness and support on the need for innovative water rate structures, energetic conservation measures, and more integrated land use and water supply planning.

North Platte

Featured Activity

During the BIP process, basin roundtable members participated in a public outreach meeting and targeted technical workshop meetings with both consumptive and environmental and recreational stakeholders. The public outreach meeting was announced in the local paper and 22 members of the public attended to learn about the history of the roundtable and the current planning efforts.

Featured Strategy

Public education and outreach programs can effectively address adverse perceptions and increase acceptance of projects. By working closely with organizations that specialize in facilitation of public education and outreach programs, the basin will increase public understanding and participation in important water issues and capitalize on previous educational efforts of the basin's education liaison.

Rio Grande

Featured Activity

The BIP process strengthened the existing comprehensive outreach program using numerous media platforms throughout the basin, such as weekly newspaper articles, monthly radio programs, a dedicated website and a water 101 booklet developed specifically for the basin. This program has resulted in increased public attendance at regular roundtable meetings as well as momentum to create a forum to discuss “Multiple Use Project Implementation.”

Featured Strategy

Through a continued partnership with the Rio Grande Watershed Conservation and Education Initiative, the basin will establish a long-term education and outreach strategy for water use and needs in the basin, building its public communications on three key ideals – outreach, education and participation – across all demographics, including water users, public officials, communities and water leaders. This can be achieved through active and diverse basin roundtable members, educational opportunities and strategic planning forums.

Southwest

Featured Activity

Unique to this basin is the “social hour” before each roundtable meeting, where nearly as many members of the public attend to learn and network as roundtable members themselves. An additional set of meetings provided local decision makers with information on the CWP and BIP along with discussion topics to spur participation and input, resulting in a greater understanding of public concerns and interests as they relate to water development and uses within the basin. Similarly, attendees were asked to widely share the CWCB’s fact sheets and the winter 2015 issue of *Headwaters* magazine with their constituents.

Featured Strategy

Working with the Water Information Program, the roundtable plans to continue to inform local decision makers and the public about consumptive and nonconsumptive needs and planned projects, promoting partnerships, how they are represented on the roundtable and disseminating information on natural variability of river flows and the hydrologic cycle. One short-term strategy to achieve the BIP goals of conservation, land-use planning and water reuse is to implement a pilot conservation and land-use planning session.

Yampa/White/Green

Featured Activity

Through a WSRA grant, the Community Agriculture Alliance implemented and facilitated education and outreach activities for the basin, including a partnership with three local National Resources Conservation Service (NRCS) conservation districts to host and widely advertise a water forum and Q&A session at their annual meetings, thereby expanding the basin roundtable’s constituency. Input surveys were administered to the 255 attendees and to other stakeholders throughout the BIP process, resulting in 3 new IPPs for consumptive use projects and 17 additional IPPs for environmental and recreational projects.

Featured Strategy

The basin roundtable recognizes the importance of including stakeholders in the process of developing and implementing IPPs and will therefore serve as a source for information exchange. Participation in the public process will be encouraged to provide transparent and open dialogue amongst all involved parties. Additionally, some IPPs can impact stream flows both upstream and downstream of the project location and as such, the basin roundtable can facilitate public awareness of the projects and help to build consensus on the water management challenges as well as opportunities.

Actions

Based on the analysis presented in this section, the following recommendations 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 discussed in Section 9.2, the DNR will evaluate a new outreach, education, and public engagement grant fund to be administered by the CWCB through the basin roundtables. Grant fund specifics could include the following:
 - Similar to WSRA funds, these funds could be available for eligible outreach, education, and public engagement projects that meet specific criteria and guidelines developed by the CWCB that align with Colorado's Water Plan goals.
 - Lists of proposed projects for outreach, education, and public engagement already exist within the BIPs and each basin roundtable's PEPO Education Action Plan.
 - Guidelines could prioritize grants that are dedicated to projects that assist the basin roundtables with communication, outreach, and public education efforts related to issues that were addressed in Colorado's Water Plan or the BIPs.
 - Guidelines would stress the importance of measuring success, targeting specific audiences and approaches, and 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 that assessed what water education programs exist across the state, and
 - Determining critical gaps in water education both geographically and topically.
3. **Improve the use of existing state resources:**
 - The CWCB will incorporate education and outreach components in the WSRA grant criteria and guidelines.
 - The CWCB 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.
 - The CWCB intends to foster continued engagement of the Water Education Task Force to use the network of existing water educators in a coordinated fashion to educate the various and diverse audiences in Colorado.

¹ § 37-60-106 2014, C.R.S.

² See Water Court Committee of the Colorado Supreme Court Report to the Chief Justice, August 1, 2009. See also, Melinda Kassen, Symposium: A Critical Analysis of Colorado's Water Right Determination and Administration Act of 1969, 3 U. Denv. Water L. Rev. 58 (1999).

³ See e.g., *Kansas v. Colorado*, 543 U.S. 86 (2004); *Kansas v. Colorado*, 533 U.S. 1 (2001); *Kansas v. Colorado*, 522 U.S. 1073 (1998); *Kansas v. Colorado*, 514 U.S. 673 (1995); *Kansas v. Nebraska and Colorado*, 538 U.S. 720 (2003); *Kansas v. Nebraska and Colorado*, 527 U.S. 1020 (1999); see also, *Kansas v. Nebraska and Colorado*, No. 126 Orig., Report of the Special Master (November 15, 2013).

⁴ See e.g., *Wyoming v. Colorado*, 259 U.S. 419 (1922), *vacated on joint motion by parties*, 353 U.S. 953 (1937); *Kansas v. Colorado*, 206 U.S. 46 (1907); *Kansas v. Colorado*, 185 U.S. 125 (1902).

⁵ § 37-60-121 2014, C.R.S.

⁶ § 37-60-121 2014, C.R.S.

⁷ Colorado Water Conservation Board, *Statewide Water Supply Initiative 2010* (Denver, 2011), 7-29.

⁸ Personal Communication, Colorado Parks and Wildlife, 2014.

⁹ Personal Communication, Colorado Parks and Wildlife, 2014.

¹⁰ Water Information Network of Colorado (2014). <http://wincolorado.org/webmap/>

¹¹ B. Harding, *Analysis for CWCB* (2014).

¹² W.M. Hanemann, *The Economic Conception of Water, Chapter 4*, (University of California Berkley), Section 3.4.

¹³ Lewis Solomon, *American Water and Waste Water Crisis, The Role of Private Enterprise*, (2011).

¹⁴ United States Census Bureau, "Colorado," accessed November 2014, <http://quickfacts.census.gov/qfd/states/08000.html>.

¹⁵ Kevin Riedy, *Initial Analysis from HB 1051* (2014).

¹⁶ House Bill 14-1333 (2014).

¹⁷ Title 37-60-121. C.R.S.

¹⁸ Colorado Water Conservation Board, *Annual Financial Compilation Report* (2014).

¹⁹ Title 39-29-109, C.R.S.

²⁰ Colorado Water Conservation Board, *Compilation of 2001-2013 CWCB Severance Tax Revenues* (2014).

²¹ Colorado Water Conservation Board, *2014 Annual Financial Compilation Report* (2014).

²² Colorado Department of Natural Resources, *Tier 2 Severance Tax Operation Fund, Schedule 9, Cash Fund Report* (2013).

²³ Colorado Water Conservation Board, *WSRA Basin and Statewide Account Annual Report* (2014).

²⁴ Colorado Water Resources and Power Development Authority, "Programs," accessed July 1, 2015, <http://www.cwrpda.com/programs>.

²⁵ "Programs."

²⁶ Colorado Water Resources and Power Development Authority, "Small Hydropower Loan Program Terms," accessed July 1, 2015, <http://www.cwrpda.com/programs/small-hydropower-loan-program>.

²⁷ Colorado Water Conservation Board Finance Section, *Non-reimbursable Investment Summary* (2013).

²⁸ Colorado Water Conservation Board, *Non-Consumptive Toolbox Appendix E* (2011).

²⁹ Colorado Water Conservation Board Finance Section, *Non-reimbursable Investment Summary*.

³⁰ \$55 million average annual available CWCB loan funds x 35 years = \$1.925 billion rounded to \$2 billion.

³¹ \$11million available x 35 years = \$385 million.

³² WSRA Funding at \$10 million + \$4 million in grant funding = \$14 million x 35 years = \$490 million.

³³ Interbasin Compact Committee *No and Low Regrets Action Plan* (2013).

³⁴ The Nature Conservancy Colorado River Program, *A Compendium of Financing Sources and Tools to Fund Freshwater Conservation* (The Nature Conservancy, Colorado Chapter, 2011).

<https://www.conservationgateway.org/Documents/TNC%20Financing%20Compendium%20FULL%20RPT.pdf>; Tamarisk Coalition, *Sustainable Funding Options for Comprehensive Riparian Restoration Initiative in the Colorado River Basin* (2011).

http://www.tamariskcoalition.org/sites/default/files/files/Sustainable_Funding_Options_for_a_Comprehensive_Riparian_Restoration_Initiative_in_the_Colorado%20River%20Basin_2011.pdf.

³⁵ Title 39-22-533, C.R.S.

³⁶ Senate Bill 13-236.

³⁷ Committee on Transportation and Infrastructure of the House of Representatives – Panel on Public-Private Partnerships, *Public Private Partnerships: Balancing the needs of the public and private sectors to finance the nation's infrastructure Final Report* (2014).

³⁸ Mill levy calculations based on 4 mills, Adams \$18 million, Arapahoe \$30.4 million, Boulder \$22 million, Denver \$40.4 million, Douglas \$17.2 million, El Paso \$23.2 million, Jefferson \$28.8 million, Larimer \$15.2 million, and Weld \$18 million, approximate total = \$215 million. Those figures are doubled for 8 mills or \$430 million.

³⁹ Legislative Council Staff and Office of Legislative Legal Services, *Memorandum on Proposed initiative measure 2009-2010 #91, concerning a container fee to fund water preservation and protection* (2010).

[http://www.leg.state.co.us/lcs/Initiative%20Referendum/0910InitRefr.nsf/dac421ef79ad243487256def0067c1de/2d3041454dfeae7872576f2007c6116/\\$FILE/ATTL3OK3.pdf/2009-2010%20%2391.pdf](http://www.leg.state.co.us/lcs/Initiative%20Referendum/0910InitRefr.nsf/dac421ef79ad243487256def0067c1de/2d3041454dfeae7872576f2007c6116/$FILE/ATTL3OK3.pdf/2009-2010%20%2391.pdf).

⁴⁰ Committee on Transportation and Infrastructure of the House of Representatives – Panel on Public-Private Partnerships, *Public Private Partnerships: Balancing the needs of the public and private sectors to finance the nation's infrastructure Final Report*.

⁴¹ Colorado Water Conservation Board, *Statewide Water Supply Initiative 2010*.

⁴² § 37-60-102, C.R.S. and <http://cwcb.state.co.us/about-us/about-the-cwcb/Pages/main.aspx>.

⁴³ The Instream Flow and Natural Lake Level Water Rights Database, <http://cwcb.state.co.us/technical-resources/instream-flow-water-rights-database/Pages/main.aspx>.

⁴⁴ <http://cwcb.state.co.us/environment/instream-flow-program/Pages/CompletedTransactions.aspx>.

⁴⁵ Case No. 1-05CW025 (W-232, 79CW306): Application of Colorado Water Conservation Board (Bear Creek Lake).

⁴⁶ Case Nos. 1751B and 80CW237, Division 7 Water Court.

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