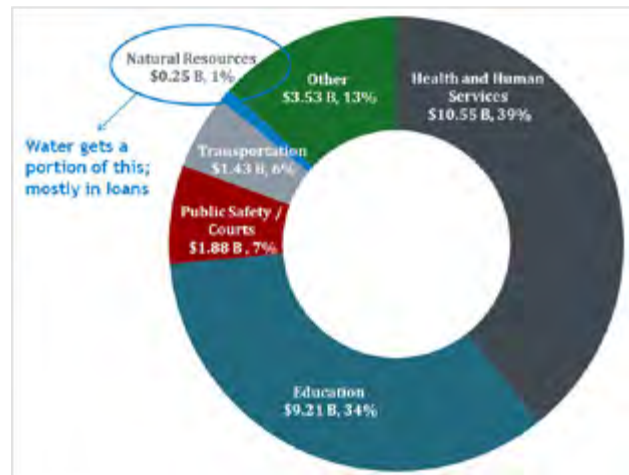


9.2

ECONOMICS AND FUNDING

FIGURE 9.2-1

2015 COLORADO STATE BUDGET



GOAL

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, sustainable water projects can create community apprehension and political controversy.

At the same time, the State of Colorado does not invest significant funds in water resources compared to other state priorities.⁷ Figure 9.2-1 shows the State’s overall natural resources budget compared to other state priorities.

Financing long-term, sustainable water supplies and infrastructure projects requires a collaborative effort involving water users and providers, as well as federal, state, and local entities. 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 multipur-

pose and multipartner projects, which have included 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.^a

To meet long-term water demands, Colorado will need to secure funding through a combination of legislation, partnerships, and state and federal grant and loan programs. It is the CWCB’s intent to promote, and potentially financially and politically support, projects that evaluate water supply, storage, and conservation efforts on a regional, multipurpose, 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 for developing an integrated water infrastructure financing model that could assist in addressing Colorado’s short- and long-term water needs.

^a 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).

TABLE 9.2-1 PROJECT COSTS IDENTIFIED IN THE BASIN IMPLEMENTATION PLANS*

BASIN	SINGLE-PURPOSE PROJECTS AND METHODS			MULTI-PURPOSE PROJECTS	TOTAL
	ENVIRONMENTAL, RECREATIONAL, OR WATER QUALITY	MUNICIPAL AND INDUSTRIAL	AGRICULTURAL		
Arkansas	\$345,000,000	\$270,000,000	\$10,000,000	\$792,000,000	\$1,407,000,000
Colorado	\$1,500,000	\$4,000,000	Forthcoming	\$132,000,000	\$137,500,000
Gunnison	\$8,000,000	\$46,000,000	\$9,000,000	\$423,000,000	\$486,000,000
North Platte	Forthcoming	Forthcoming	Forthcoming	Forthcoming	Forthcoming
Rio Grande	Forthcoming	Forthcoming	\$80,000	\$130,000,000	\$131,080,000
South Platte / Metro	Forthcoming	Forthcoming	Forthcoming	Forthcoming	Forthcoming
Southwest	\$60,000,000	Forthcoming	Forthcoming	Forthcoming	\$60,000,000
Yampa/White/ Green	\$5,000,000	Forthcoming	Forthcoming	Forthcoming	\$5,000,000
TOTAL	\$419,500,000	\$320,000,000	\$19,080,000	\$1,477,000,000	\$2,235,580,000

* Costs were rounded to three significant figures. 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.

Statewide Water Infrastructure Financing Need

The BIPs for Colorado’s major river basins 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 and among the respective 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 basins.

Table 9.2-1 features an initial summary of the costs the BIPs identified. It must be emphasized that costs were not associated with the vast majority of projects identified. In addition to these projects, the BIPs included 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.

The SWSI estimated that by 2050, municipal and industrial water infrastructure improvements will require between \$17 billion and \$19 billion in funding.^{8, b} In addition, approximately \$150,000 is needed per mile of stream for smaller-scale river restoration work, but substantial structural changes or channel reconfiguration could cost \$240,000 or even \$500,000 per mile.⁹ Up to 90 watershed or stream management plans, at an estimated cost of \$18 million statewide, will be necessary to help CWCB and stakeholders better determine the amount of river restoration work and other similar types of work that may be required.¹⁰

As basins and stakeholders identify their environmental and recreational needs, the basins will need to develop and fund further projects and methods to meet those needs. For planning purposes, however, one could estimate a \$2 billion to \$3 billion environmental and recreational statewide need, equivalent to approximately 10 to 15 percent of the municipal and industrial water infrastructure cost estimates. Addition-

^b 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 in accordance with the BIPs.

HEATHER DUTTON

RIO GRANDE RIVER BASIN

Heather works for the Rio Grande Headwaters Project and has become an expert at finding financial resources to implement collaborative and multi-purpose projects. She is a member of the Rio Grande Basin Roundtable. Heather is pictured standing next to old and new head gates at McDonald Ditch, outside of Monte Vista along the Rio Grande River.

My vision for Colorado's Water Plan is a living document that provides a baseline analysis of where we are and what is important to us as a State. The Water Planning Process has been eye opening and has provided a forum for people to come together and learn about each other. I hope the plan will be a springboard for action because I view the widening gaps in supply for agriculture, environment, and communities as the most urgent issue we are facing. One of our local water and wildlife managers said, "water is not life or death, it is more important than that."

CONTINUED AT END OF CHAPTER

PROFILE



ally, basins will need to develop the long-term funding needed to support agricultural sustainability 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 needed to deliver water from agricultural areas to urban areas on a shared basis.

As the State moves forward in improving Colorado's water infrastructure, it will need to further refine and identify water infrastructure financial needs through the BIP process. The CWCB will review the results of these efforts to develop a list of project priorities. For a project to be considered priority, the CWCB weighs several criteria—including the project's funding; whether it meets multiple purposes, has multiple partners, and provides multiple benefits; and whether it 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. Section 9.2.4 discusses this further.

An estimated overall funding need of approximately \$20 billion is associated with meeting the M&I gap and maintaining current infrastructure. Specifically, these funds would support:

1. The IPPs 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 statewide environment and recreational needs and to support agricultural viability. And finally, the estimated \$20 billion figure does not include treated water projects, such as drinking water treatment, distribution, and wastewater treatment.

Economics

When Colorado's land, labor, and capital assets combine with available water, the result is economic prosperity and opportunity. Nevertheless, managing water operations is challenging due to 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, and they must do so at a cost people can afford and are willing to pay.

Water is also extremely mobile, and by the nature of



Couple skiing down into Telluride. Skiing is a major contributor to Colorado's tourism economy.

its physical properties, it can move around in streams, seep into soils, move underground, evaporate, be stored in reservoirs, and even be bottled and transported. The inherent reality of mobility is that the same molecule of water can have many sequential uses, since it is rarely consumed fully by a particular user, and what is left is available for other uses. Water mobility is also described by its overall variability in terms of where it is located and for what duration, and its variability in quality and quantity. In Colorado, the mobility of water is very high, given that 89 percent of the state's population resides east of the Continental Divide, yet 70 percent of the state's water supply originates west of the Continental Divide.¹¹

Water is considered both a private and a public good, making it difficult to assess its economic value. Compared to other public utilities such as natural gas and electricity, which are invisible and weightless, water is capital-intensive due to its weight, viscosity, and volume.¹² Despite being capital-intensive, the public perceives water as an affordable, accessible,

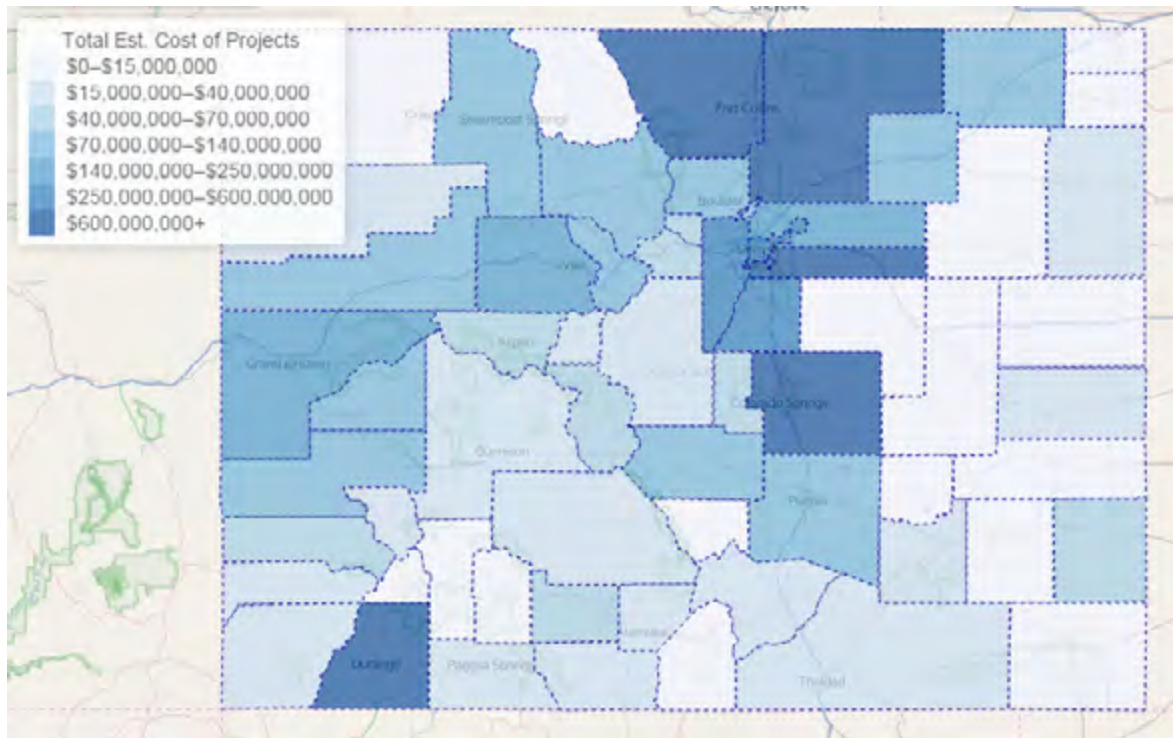
and continually available resource.¹³ On average, most families pay less than one percent of their household income for water, so many do not understand the true cost of water compared to other living expenses, such as fuel, electricity, and food.^{14,c} Twelve ounces of bottled water at the store costs \$1.00, but tap water that is treated and delivered across Colorado to a house costs approximately \$3.00 per one-thousand gallons. The fact that the public is not willing to pay much for water could be a by-product of the lack of awareness about its true inherent value; alternatively, the lack of awareness about the true value of water could simply be a learned response to the historically low cost citizens have paid for treated water delivered to their homes.

Given the current demand and the increased future demands on water supplies, it is important to focus on education efforts. Water users need to be aware of the inherent true costs of providing water.

^c Average household income in Colorado from 2008 to 2012 was \$58,224. Based on 9,000-gallon monthly household water use (108,000 gallons/year) inside city limits, Denver paid \$35/month, Longmont paid \$22.50/month, and Ute Water Conservancy District paid \$42.00/month in water bills. The combined average of the three entities equaled \$33/month in water bills.

FIGURE 9.2-2

ESTIMATED NEAR-TERM INFRASTRUCTURE NEED¹⁵



State Funding Resources and Other Funding Opportunities

Current Funding Opportunities

Though the statewide funding need for both consumptive and nonconsumptive 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 investments. When broader public interests are in play, there are opportunities to combine financial resources and infrastructure in order to solve complex water supply challenges and accelerate the construction of a project. The WISE Project is a case that illustrates how 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

assist in meeting Colorado’s long-term water infrastructure needs. These sources include the CWCB Water Project Loan Program, the CWCB’s WSRA Fund, the Species Conservation Trust Fund, nonconsumptive funding programs as identified in SWSI 2010 Nonconsumptive Toolbox, and the Water Resources and Power Development Authority’s Water Revenue Bond Program (WRBP). Although these programs cannot solely meet the state’s financial water needs, 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. This program comprises two funds: the Construction Fund and the Severance Tax Trust Fund, codified at section 37-60-120 of the Colorado Revised Statutes.¹⁷

Annual revenues to the Construction Fund come from

principal and interest (P&I) on existing loans and from a portion of federal mineral lease revenues that are paid to Colorado. Approximately \$18 million to \$20 million is available annually for water project loans from this fund.¹⁸ 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. The fund is currently capped at \$50 million annually,¹⁹ and 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 statewide environmental and recreation needs.

On average, the Water Project Loan Program has 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

The WSRA 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, and is split between the statewide and basin WSRA accounts. Funding comes from annual severance tax revenues to the state, and has varied from \$5.7 million to \$10 million annually.²² To date, this program has distributed over \$40 million in grant funds for a variety of water-related studies and projects.²³

The WSRA roundtable process has proven to be an effective 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 reevaluated 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 and stream restoration and flood mitigation projects throughout the state. Over the years, the program has leveraged substantial outside-entity dollars to promote watershed health. While it has had an annual funding allocation of \$250,000, it has recently seen a substantial increase in funding as a result 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 Section 6.6 discusses. If additional revenue sources are successfully developed to support environmental and recreational projects, this program can manage and disburse those funds.

Species Conservation Trust Fund

The Native Species Conservation Trust Fund was created in 1998 pursuant to HB98-1006. The CWCB and CPW use this fund 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. Through the annual Species Conservation Trust Fund legislation, the Species Conservation Trust Fund authorizes millions of dollars of work the CWCB and CPW conduct each year.

Water Resources and Power and Development Authority

The Water Resources and Power and Development Authority (Authority) is a quasi-governmental organization created by section 37-95-101 of 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

^c Average household income in Colorado from 2008 to 2012 was \$58,224. Based on 9,000-gallon monthly household water use (108,000 gallons/year) inside city limits, Denver paid \$35/month, Longmont paid \$22.50/month, and Ute Water Conservancy District paid \$42.00/month in water bills. The combined average of the three entities equaled \$33/month in water bills.

Revolving Fund, the Water Pollution Control Revolving Fund (WPCRF), the Small Hydropower Loan Program, and the 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 the WRBP rates provide bond issuance subsidies, up to a total of \$250,000, for each of up to four projects in any given year. 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 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. Projects often use these funds to leverage other funds through the issuance of municipal bonds, and to finance the design and construction of water and water pollution control infrastructure. The Authority, the Colorado WQCD, and the DOLA jointly administer these funds.

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.

Additional Grant and Loan Programs

Water conservation system improvements, such as smart metering technology, more efficient customer billing and communication systems, and other related technologies used to influence behavior to achieve water conservation goals, are eligible for financial assistance from state revolving funds as part of a water system capital improvement project.

The CWCB 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 grant programs is in excess of \$4 million.²⁷ A list of grant programs is available [here](#).

The Nonconsumptive Toolbox contains a list of federal, state, and private funding opportunities for environmental and recreational needs.²⁸ The total amount of funds available from state resources 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.

Currently, limited funding sources are available for education, outreach, environmental resource management, recreation, and other important water-related activities that do not involve construction of projects. Though these efforts have strong support from nongovernmental organizations, charitable donations (as opposed to tax revenue) typically fund them. Additionally, the WSRA program has funded much of this type of work, which requires approval by the basin roundtables and the CWCB. Therefore, it may be necessary to identify additional funding sources to fully meet the state's environmental and recreational water needs.

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.^d Compared to the statewide water infrastructure financing needs discussed above, this amount suggests a potential public financing gap. Consensus and additional state funds may be necessary to support innovative water projects, such as multi-use, alternative agricultural transfers, or a new TMD with a sufficient back-up supply on the eastern slope, as well as to support substantial environmental and recreational enhancements that meet the IBBC's criteria. Additionally, because environmental and recreational projects are not typically ratepayer-supported, they primarily rely on grants for financial support. Current capacity to fund environmental and recreational projects and

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

methods over the next 35 years is \$385 million, based on current funding levels.^e 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 WSRF and other grant programs for meeting future needs.^f

Federal Funding Options

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

In addition, the Upper Colorado River Basin Fund is a federal fund that comprises 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 services. The Basin Fund funds 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.

A potential source of funding for future collaborative projects is the Regional Conservation Partnership Program (RCPP). This program of the Natural Resources Conservation Service (NRCS) encourages cooperation at the local level, and brings together multiple partners, such as local and tribal governments, nonprofit groups, farmers, ranchers, and landowners. In 2015 up to \$235 million was made available nationwide for conservation projects that address local needs, focused on water quality, drought resiliency, enhanced soil health, wildlife habitat and agricultural viability.³⁰

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). The MOA 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 also authorizes additional uses for operational and maintenance on CRSP facilities, among other specified purposes, and provides more than \$5 million that the CWCB can 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. These are listed below:³¹

- ❖ 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

^e \$11 million available x 35 years = \$385 million.

^f WSRF Funding at \$10 million + \$4 million in grant funding = \$14 million x 35 years = \$490 million.

while supporting nonconsumptive needs.

- ❖ Regional taxing.
- ❖ Statewide user fee.
- ❖ Statewide tax on internet-based transactions.
- ❖ Debt financing (debt backed by existing or newly created revenue source).

In addition, The Nature Conservancy, Colorado Chapter, and the Tamarisk Coalition assessed funding sources for environmental needs.³² When additional funding sources become needed, some potential investment opportunities include:

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

- ❖ Remove federal mineral lease and Severance Tax Trust Fund cap limits, which could generate an additional \$10 million per year.
- ❖ Increase the funding cap on the WSRA Grant Program account, currently limited to \$10 million per year. 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 2015.³³
- ❖ Expand the CWCB's authority to improve the management and distribution of existing funds, enabling the CWCB to fund treated water facilities. This 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. This could support efficient outdoor irrigation systems and replacement of residential outdoor turf with plants that use less water.
- ❖ Amend governing statutes to water providers, granting them specific authority to use public/private partnerships.
- ❖ 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 dry-up of 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 the Severance Tax Trust Fund to the General Fund to help balance the state's budget from 2008 to 2011. To date, \$40 million has been returned.³⁴ These funds could be directed to various water projects, environmental and recreational projects, watershed and stream management, project management, and other uses.

Public/Private Partnerships (P3s): Provide funding to create a State-sponsored Center of Excellence, research the pros and cons of P3s, and develop a preliminary water infrastructure P3 model. The Center of Excellence would be a centralized clearinghouse to allow water providers and other entities to talk with experts in the field and obtain information about working P3 models. Based on their expertise, the basin roundtables, through the WSRA process, should assist with this discussion to provide guidance to project proponents regarding the potential value of P3s for specific projects they are considering.

In general, P3s have the potential to reduce both capital investment and risk, while drawing on the respective strengths inherent in 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 which had to balance several P3-related challenges and opportunities such as social perception, the interaction of state and private contracting policies, ratepayer concerns, and long-term sustainability of the partnership. P3s can offer a considerable amount of working capital which, in certain circumstances, can accelerate the delivery of costly, technically complex projects.³⁵

State Repayment Guarantee Fund: For larger water projects with many participating entities, it has proven difficult to develop an overall project financing package that equitably distributes risk and repayment. The

involvement in a bundled financing package of smaller participating entities with lower credit ratings, minimal revenue streams, and small service areas can create a disincentive for larger water providers to participate, given they would be subjected to higher interest rates, repayment, and risk. To address this obstacle, the State could develop a repayment guarantee fund that would act as an overall repayment guarantee to the financial entity that is issuing the bond for the project. Such a 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 and supply projects, without negatively affecting larger water providers.

The CWCB and the Statewide Water Investment Funding Committee would recommend that this fund develop 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 environment 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; this would minimize debt investment return costs under one large bond issuance. Only bonds that can actually be spent in a specified time frame should be issued. 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 green bonds could come from a combination of revenues from the CWCB's Severance Tax Perpetual Fund, or from public initiatives, 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 long-term challenges.

In 2003, 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 of Coloradans opposed and 33 percent in favor. Though Referendum A was initiated to resolve 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 been spent 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 BIPs provide an excellent roadmap for what the State of Colorado needs to accomplish to address its long-term water supply needs. The development of the BIPs is the result of decades of discussion, debate, and collaboration among water users, providers, and the Colorado General Assembly. With prioritization and refinement, the BIPs could provide a necessary framework for 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, and other sources. Those funds could reside in a statewide water investment fund that would be distributed either as a loan, a grant, or a

combination of the two, and managed and disbursed through the CWCB. A portion of the funds could also be reserved as repayment guarantees for water providers seeking bonds. 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, and expanded funding levels for existing programs. 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 water supplies during drought. Additionally, in November 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 protect against floods.

Mill Levy or Sales Tax: In lieu of a statewide referendum, a more targeted approach could help increase property or sales taxes in 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 or increase sales tax to provide critical water project funding in their area and to offset distresses in other areas (for comparison, typical fire district revenues are based on eight mills). This could generate approximately an additional \$215 million to \$430 million dollars per year and reside in a water investment fund as described above.⁸ This option might be better handled at local levels based on specific water provider needs within a given service area, although there may be a statewide option if benefits are

spread across the state.

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 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 finance water projects, environmental and recreational projects, and stream and watershed management efforts throughout the state.³⁶ 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 forward many of the funding issues identified in this section.

Securing additional funding to assist in the implementation of Colorado's Water Plan is one of the plan's most critical objectives. Colorado's Water Plan provides a realistic, achievable path forward to secure additional funds. First, the State plans to initiate the development of a Repayment Guarantee Fund and green bond program with an initial investment of \$50 million from the Severance Tax Perpetual Fund. The Repayment Guarantee Fund would assist water providers in securing financing for regional multipartner and multipurpose projects guaranteeing repayment on bonds so that all the project participants can achieve financing, despite varying credit ratings. Issuance of green bonds would support large-scale environmental and recreational projects. These funds would be operated in a conjunctive manner, as funds would be released from the Repayment Guarantee Fund as debts on the project bonds are repaid. In doing so, the initial \$50 million investment would leverage half a billion dollars in regional projects and support nearly \$50 million in environmental projects. In order to make this level of funding sustainable, the State will investigate options to raise an additional \$100 million annually (\$3 billion by 2050) to support implementation of the plan. Such

⁸ 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.

FIGURE 9.2-3

FRAMEWORK FOR HOW A NEW SOURCE OF FUNDING COULD BE MAXIMIZED



funds would increase the Repayment Guarantee Fund and green bonds, while further supporting conservation, agricultural viability, alternative transfer methods, education and outreach, and other plan implementation priorities. Under a well-planned, phased approach, this investment could address a majority, if not all, of the funding needs described in Colorado’s Water Plan, as Figure 9.2-3 further describes.

ACTIONS

According to studies conducted by the U.S. 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 amounts to roughly twice the current level of investment by all levels of government.³⁷ Colorado alone has nearly \$20 billion in identified water project needs, including water supply and environmental and recreational projects.³⁸ While 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 Colorado’s ability to meet its future water funding needs. It cannot be assumed that existing programs and revenue streams are sufficient to address the state’s

long-term water supply and environmental needs, or to maintain existing water supply infrastructure. The actions and initiatives below could greatly assist in meeting Colorado’s water funding needs over the next decade and in generating the momentum required to address long-term funding needs. The CWCB will work with the Statewide Water Investment Funding Committee to explore options for implementing these 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 repayment guarantee fund or green bonds, and to provide additional support grants and loans for the WSRA, 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 WSRA program.
6. **Public/Private Partnerships:** Modify Colorado’s statutes to clearly allow for public/private partnerships for water projects.
7. **Conservation:** Explore a tax credit for home owners 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 with the Statewide Water Investment Funding Committee to develop a sustainable funding plan that integrates a repayment guarantee fund, green bonds, and additional support grants and loans for the WSRA, 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. Needs may include municipal, environmental, industrial, recreational, agricultural, conservation, and 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 in order to strategically support the values Colorado’s Water Plan identifies. These values include the need for multipurpose and multipartner projects and methods.

The State will take the following actions:

- ◆ Develop a common grant-inquiry process to be coordinated across funding agencies for each sector, including environmental, recreational, municipal, and agricultural project proponents. This will include revisiting and reorganizing how agencies conduct the current state funding coordinators meeting.
- ◆ Review the CWCB’s financial policies, taking into consideration providing financial incentives to move projects and methods forward and assisting small water providers in addressing upfront planning costs. Such policies may include reduced interest-rate categories and extended terms (40 years).
- ◆ Pursue additional funds to support the WEGP, which provides financial incentives for implementing conservation programs and planning for drought; investigate expanding the program’s authority to provide grant funds to municipalities for documented water conservation and savings to help offset the economic impact of lost revenue due to reduced water usage; and 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 funding recommendations.

- ◆ Assess opportunities for additional WSRA grant funds, and work to amend the WSRA guidelines on how additional funding is allocated, approved, and disbursed in order to prioritize projects that provide 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, and environmental and recreational projects and methods.
- ◆ Continue to provide \$1 million or more if needed on an annual basis to support stream management and watershed plans, and develop an established funding source.
- ◆ In partnership with the Water Investment Funding Committee and in coordination with the basin roundtable representatives, review and prioritize BIP-identified water projects 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.

- ◆ Develop policies for how and when the CWCB becomes 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 a framework for how future water public/private partnership projects will move forward, taking into consideration best procurement practices, maintenance and operation, water administration and management, and other factors.
- ◆ Continue to use the Water Investment Funding Committee—comprising representatives from each basin, the CWCB, the Water and Power Authority,



the Executive Director's Office, large water providers, and the private sector—to evaluate funding recommendations contained within Colorado's Water Plan and other plans. The goal of such evaluation will be 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 for determining 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 DNR's severance tax operational account revenues to 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, insurance tax premiums, user fees, and other potential funding mechanisms.
 - ◆ Explore implementation of 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. CWCB recommends 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, the Department of Real Estate, the Department of Revenue, and appropriate legislative committees to develop strategies that 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 be determined based on the estimated number of new taps issued statewide, and target revenue.
 - ◆ Assess funding and loan opportunities from the Water Infrastructure Finance and Innovation Authority (WIFIA) and the Rural Infrastructure Fund 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 Army Corps of Engineers (Corps) and the EPA as they implement WIFIA.
 - ◆ Work collaboratively with foundations and nonprofits to support the environment, recreation, and education priorities through philanthropy.
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