Appendix H: Summary of Actions in Colorado's Water Plan

H

6.1 Scenario Planning & Developing an Adaptive Water Strategy

ACTIONS

The following actions will continue to support scenario planning and Colorado's adaptive strategies:

1. **Support the implementation of the no-and-low-regrets strategy:** The CWCB, in partnership with other state agencies, will commit state financial, technical, and regulatory resources to the near-term implementation of prioritized water management projects as specified in the no-and-low-regrets actions. As part of this work, and in partnership with the basin roundtables, the CWCB will evaluate progress toward achieving the no-and-low-regrets actions.
2. **Monitor drivers:** To determine which scenario Colorado will most likely face, the CWCB will work with partners, such as the Climate Change Technical Advisory Group, to monitor the critical drivers of water supply, demand, and the level of "green" versus "full-resource use" values through future SWSI updates and other technical work. As part of this work the CWCB will work with stakeholder groups to update the scenarios and adaptive strategies.
3. **Promote use of scenario planning and adaptive strategies:** The CWCB and the basin roundtables will continue to use and promote scenario planning and the use of adaptive strategies to respond to, mitigate, and prepare for climate change. In partnership with project proponents, the CWCB will also encourage and facilitate the adoption of adaptive strategies for municipal, industrial, agricultural, environmental, and recreational needs as Colorado moves into the future.
4. **Support Colorado's Decision Support Systems (CDSS):** The CWCB and the DWR will continue to develop and support the CDSS to encourage data-driven planning and decision making.
5. **Support innovative and collaborative science:** The CWCB will continue to work with local, state, and federal partners to build coalitions to purchase, deploy, maintain, and operate new equipment and new science necessary for 21st-century water management. Concepts and technologies such as watershed-based gap-filling radars for continuous weather coverage, radiometers for improved profiles of the atmosphere and modeling support, and improved high-resolution atmospheric and hydrological modeling specific to Colorado, lead to accurate quantification of the snowpack and runoff, regardless of the scenario.

6.2 Meeting Colorado's Water Gaps

ACTIONS

The projects and methods in the BIPs met many of the identified gaps; however, gaps remain, even with the significant efforts described. Several next steps will help the basin roundtables meet their needs. In its BIP, the Gunnison Roundtable summarized many of these next steps and potential actions; Table 6.2-5 illustrates this work.

A primary purpose of Colorado's Water Plan is to address Colorado's water gaps. To accomplish this, several of the next steps and potential actions include the following, as summarized in Table 6.2-5:

- Partnerships and cooperative strategies are vital to overcoming conflict and building local consensus so that a project can move forward. Section 9.4 further discusses this approach in the context of more effective and efficient permitting.
- Public education and outreach can also help inform people about Colorado's water needs and solutions. Section 9.5 explores avenues to better support water education throughout Colorado.
- Many sections of Colorado's Water Plan mention incentive-based programs. For instance, Section 6.3 explores opportunities to encourage conservation, reuse, and water-wise land-use practices. Section 6.4 explores opportunities to encourage ATMs.
- Funding is also a common theme throughout many of the BIPs. Section 9.2 further explores funding options.

TABLE 6.25 STRATEGIES FOR IMPLEMENTATION OF THE BASIN IMPLEMENTATION PLANS

CATEGORY	CONSTRAINT	NEXT STEPS AND POTENTIAL ACTIONS
Project Evaluation	Constraint	• Partnerships • Cooperative Strategies
	Perception	• Public Education and Outreach • Incentive-Based Programs
	Regulations	• Cooperative Strategies • Effective and Efficient Permitting
Project Feasibility	Cost	• Creative Funding Mechanisms • Partnerships and Cooperative Strategies
	Water Availability	• Water Availability Analyses • Water Administrative Strategies
	Constructability	• Feasibility Analyses • Engineering Design

In SWSI 2010, the gap was calculated based on future water needs and the identification of projects and methods that water providers indicated they were planning to implement in order to serve future customers. The basin roundtables partially reduce this gap by identifying additional projects and methods within the BIPs, as Section 6.5 describes. However many of these additional projects and methods either do not have project proponents identified, or are insufficiently developed. Further development of these projects and methods, reductions in water use from conservation and changes in land-use practices, and refinement of additional options such as ATMs and regional reuse will address the remaining gap.

Colorado must identify and address its water gaps. The CWCB will take the following steps to accomplish this starting in 2016:

1. The CWCB will support the evaluation, feasibility, and completion of the BIPs through WSRA grants.
2. The CWCB will support increased consistency and technical support in the BIPs in the following ways:
   - Provide technical support for several of the BIPs through continued decision-support development and maintenance in order to explore municipal, agricultural, industrial, and environmental shortage analyses similar to those in the Yampa/White/Green BIP.
   - Provide technical support for several of the BIPs to explore the use of project information sheets and project tiering, similar to those delineated in the Rio Grande, North Platte, and Gunnison BIPs.
   - Support the further quantification of costs associated with projects and methods, development of new acre-feet, development of new irrigated acres, and protection of new stream-miles.
3. The CWCB will incorporate the BIP information into the next version of SWSI, and will reassess the municipal, industrial, environmental, recreational, and agricultural gaps at that time.
4. The CWCB will establish guidelines for basin-roundtable WSRA grants, enabling the basin roundtables to facilitate implementation of their BIPs in their basins. The purpose of the grants would be to foster the ability to meet municipal, industrial, agricultural, environmental, and recreational needs in a manner that is consistent with the BIPs.

6.3 Water Conservation and Reuse

6.3.1 Municipal Water Conservation

ACTIONS

The actions below are based on the IBCC's No-and-Low-Regrets Action Plan, the work of the Water Conservation Technical Advisory Group, the basin roundtables, and utility water conservation plans.

1. **Adopt conservation incentives:** Over the next two years, the CWCB will adopt policies stating that water providers must conduct comprehensive, integrated water-resource planning geared toward implementing water conservation best practices at high customer participation levels, as defined in SWSI, as one of the components that shall be considered to achieve State support and financial assistance for water management projects.
2. **Support water management activities for all water providers:** The CWCB will continue to provide funding, technical support, and training workshops to assist water providers in improving the management of their water systems. This will include the use of techniques such as water budgets, smart-metering, comprehensive water loss management programs, savings tracking and estimating tools, and improved data collection on customer water uses. For example, in the next year, the CWCB will fund several regional training workshops about using the American Water Works Association M36 Methodology for Water Audits and Loss Control.
3. **Recommend WaterSense specifications for outdoor irrigation technology:** Through a stakeholder process, the DNR will work with the General Assembly to consider adopting WaterSense specifications for outdoor technology at the retail level. These specifications would create a minimum standard that water providers can easily adapt to accommodate higher-efficiency technologies as they are created and certified.
4. **Explore incentives for outdoor water conservation measures:** As part of a broader funding strategy the CWCB is developing over the next year, the CWCB will work with stakeholders to explore a tax-credit program. The program would incentivize water providers to retrofit higher water-use landscapes with lower water-use landscapes that preserve the environmental and economic benefits of urban landscape and encourage more efficient irrigation systems.
5. **Adopt a stretch goal:** The CWCB supports water providers in their plans to reduce projected 2050 demands by 400,000 acre-feet through active conservation savings. Based on stakeholder work, the CWCB will adopt a "stretch goal" to encourage demand-side innovation that places Colorado at the conservation forefront in a thoughtful way—while recognizing and addressing the effects of conservation. The CWCB will support a stakeholder process that examines various options, including options for local providers to establish targets that are consistent with the IBCC's identified stretch goal. At the same time, CWCB will give appropriate credit to water providers for recent strides they have made in demand reduction.
6. **Water conservation education and outreach:** The CWCB will develop an education and outreach strategy that includes water conservation topics. Section 9.5 offers more detail regarding specific education and outreach recommendations. Section 9.5 outlines education and outreach recommendations that will tie together other actions the section illustrates, and provide the reason for executing these actions. Each BIP will emphasize these efforts, which the roundtable will implement in order to address basin-specific issues. This work will include surveys of public attitudes, and partnerships with water providers and other water educators.
7. **Support local water smart ordinances:** Over the next two years, the CWCB will provide trainings that support local regulatory efforts that shape the ways in which new construction interacts with water use. For example, local jurisdictions could craft landscape and irrigation ordinances, tap fees that reflect actual water uses, education

or certification for landscape professionals, green-infrastructure ordinances, and more stringent green-construction codes that include higher-efficiency fixtures and appliances and water-wise landscapes. It is imperative that this action explore the societal and environment benefits of urban landscapes. Section 6.3.3 further explores this action.

8. **Evaluation of barriers to green-building and infrastructure.** CWCB and CDPHE will work together to determine which state agencies govern green infrastructure and green-building, identify barriers, and work with the appropriate agencies to adapt regulations to allow for graywater, green infrastructure, on-site water recycling and other aspects of green developments.

9. **Strengthen partnerships:** The CWCB will create or renew partnerships between the CWCB and the following groups to reach water conservation goals:

    a. Local water providers and local governments to implement water conservation programs to benefit their water systems.

    b. Intra-state government (DOLA, DWR, Department of Regulatory Agencies (DORA), and state facilities) to coordinate and implement incentives.

    c. Green industry (GreenCO, Irrigation Association, Associated Landscape Contractors of Colorado, urban arborists, landscape-related businesses, property management companies) to implement efficient landscape installations and maintenance.

    d. Home building/construction (Home Builders Association, LEED, U.S. Green Building Council) to implement water-smart homes.

    e. Non-governmental organizations (Colorado WaterWise, Alliance for Water Efficiency, Western Resources Advocates, American Water Works Association, Water Research Foundation) to help educate Coloradans and advance conservation innovations and research.

    f. Academia (Colorado State University, CU-Boulder, CU-Denver, One World One Water Center-Metropolitan State) to bring a consortium of businesses, academia, and others together to examine behavioral science and research conservation innovations.

10. **Explore expanding conservation funding:** As Colorado water providers implement more sophisticated and integrated water conservation programs, the CWCB will require annual funding for the Water Efficiency Grant Program beyond the current $500,000 levels, and funding should consistently total $2,000,000 per year. In addition, the CWCB's loaning ability should expand to encompass conservation actions. The DNR will work with the General Assembly to institute these changes over the next two legislative cycles.

11. **Market for conserved, consumptive-use water:** To use conserved, consumptive-use water to the greatest extent possible, the CWCB will identify legal and administrative barriers to the use or sharing of conserved, consumptive-use water through a stakeholder process. If the CWCB can address barriers through acceptable legislative modification, the DNR will work with the Water Resources Review Committee to propose legislative action.

12. **Develop an alternative process for smaller entities to create water conservation plans and report water use data to the CWCB:** The CWCB will provide technical and financial support and will work to formalize the process into the CWCB Municipal Water Efficiency Guidance document.

13. **Continue implementation of state conservation programs:**

    a. The CWCB will continue to review and approve locally adopted water conservation plans to encourage long-term water conservation planning and water savings quantification, and to ensure that water providers document their water conservation goals.

    b. The CWCB will continue to use the Water Efficiency Grant Fund to ensure the implementation of water conservation best practices and to assist water providers in targeting their resources as efficiently as possible.

    c. The CWCB will focus on opportunities for water conservation planning where covered-entities or many small-water providers can create a regional water conservation plan. This will especially be the case when conservation in such communities could help reduce the M&I water supply gap, lessen the need for agricultural dry-up, or affect nonconsumptive values.

6.3.2 Reuse

ACTIONS

1. **Explore regional and expanded local reuse options:** Over the course of the next three years, the CWCB will conduct a technical review of on-site, local, and regional reuse options and provide grants to support on-site, local, and regional reuse plans and projects.
2. **Improve quantification, planning, and tracking for potential reuse projects:** Over the next two years, the CWCB will examine the quantity of water that is currently being reused, the quantity of water providers plan to reuse, and the potential to increase reuse with regional and local reuse options. As a future planning effort, CWCB should explore regional and local reuse plans and projects. To assess feasibility of potable reuse projects in Colorado, the CWCB will work with partners to map all wastewater and potable infrastructure, water rights, needs, cost, and benefits. In addition, it will examine potential effects on return flows.
3. **Clarify the regulatory environment:** Over the next two years, the CWCB and the CDPHE will work with stakeholders to examine the application of water quality regulations to reuse water. The aim will be to identify potential change that fosters permanent growth in the reuse of limited water supplies, and that protects public health and the environment.
4. **Provide financial incentives for reuse innovation:** As a research team recommended in the DPR white paper, the CWCB will, over the next year, proactively seek applicants to use WSRA grant funds for expanded research and innovation related to the technical challenges and solutions of reuse. This includes exploring areas such as ZLD, IPR, and DPR; examining regional opportunities; increasing reliability of the technology; exploring on-site reuse of water; examining development of reuse water for food-crop irrigation; inland desalination; and exploring the possibility of sharing reuse water. This research also includes support for the continued development of more cost-effective and environmentally acceptable RO-concentrate management techniques, and the evaluation of non-RO based treatments that are capable of producing water suitable for DPR.
5. **Encourage the Colorado Plumbing Board to adopt the International Plumbing Code to allow for graywater.** The CWCB will encourage the Colorado Plumbing Board to adopt and incorporate the appropriate graywater provisions from the International Plumbing Code to allow for graywater piping within structures.
6. **Expand loan programs:** The CWCB will explore expanding its loan program to include loans for reuse projects. The DNR will work with the General Assembly to institute this modification during the 2016 legislative session.
7. **Support reuse education:** As a research team recommended in the DPR white paper, the CWCB will support stronger education to describe the benefits of reuse water as an integral part of a water supply system. Specific recommendations include sponsorship of a survey of Colorado utilities and water agencies to determine the extent to which they may consider DPR as a means to augment their legally reusable water supply portfolios, and development of a program to educate the public, elected officials, and water utilities about the benefits and safety of DPR. Section 9.5 contains more detail regarding specific education and outreach recommendations.
8. **Examine mechanisms to improve the ability to market, sell, and share reusable supplies:** Through a stakeholder process, the CWCB will investigate mechanisms to better allow for reuse water to be marketed to water providers outside of a service area, and to make it more desirable to build a reuse project.

6.3.3 Land Use

ACTIONS

One objective of Colorado's Water Plan is that by 2025, 75 percent of Coloradans will live in communities that have incorporated water-saving actions into land-use planning. Ten communities have completed land-use and water trainings through the LULA process, and in order to reach the 75 percent population objective, a total of 80 communities and water providers will need to have participated in similar trainings by 2025. The trainings will support approximately 80 water providers and communities statewide to incorporate land-use practices into their water conservation plans.

To facilitate the use of local land-use tools to reduce water demands for municipalities and urbanization of agricultural lands, the State will work with partners to pursue the following actions.

1. **Encourage the use of local development tools:** Through voluntary trainings in 2016, the CWCB and DOLA will encourage local governments to incorporate best management practices for water demand management, water efficiency, and water conservation into land-use decisions.

   Trainings may cover the following topics:

   - Expediting permitting for high-density buildings and developments that incorporate certain water efficiency measures, such as efficient irrigation systems (with plan-check and install-check).
   - Including water supply and demand management in comprehensive plans.
   - Installing climate-appropriate landscapes.
   - Understanding the societal and environmental benefits of urban landscapes
   - Using appropriate amounts of soil amendments.
   - Incentivizing maximum-irrigable-area or WaterSense-certified landscapes.
   - Instituting tax incentives for incorporating certain water efficiency measures for high-density developments, such as cluster developments.
   - Establishing structured impact (tap) fees designed to promote water-wise developments and in-fill.
   - Developing water-budget rate structures to help maintain initial projected water budgets for a site.
   - Introducing landscape and irrigation ordinances.
   - Exploring the environmental and farmland benefits of water sensitive urban land-use planning.
   - Creating more stringent green-construction codes that include higher-efficiency fixtures and appliances and more water-wise landscapes.
   - Exploring landscape-oriented professional education or certification programs.
   - Examining opportunities to reduce agricultural urbanization and fragmentation.

2. **Examine barriers in state law for implementing the above local development tools:** Over the next 18 months, the CWCB will examine barriers local jurisdictions may face while implementing local development tools.

3. **Incorporation of land-use practices into water conservation plans:** Over the next 18 months, the CWCB, through partnerships, will develop new guidance for water conservation plans that requires the incorporation of land-use practices. This is an addition to C.R.S. 37-60-126.

4. **Strengthen partnerships:** To be successful in integrating land-use and water planning, the CWCB will need to partner with many different agencies and groups. Within the next year, the CWCB will establish meetings with various agencies to map out ways in which the CWCB and other agencies can work together on these issues.

   - Local municipalities, local water providers, and county governments will implement water and land-use plans. Without their partnership and support of new ideas, comprehensive water and land planning will not succeed. In addition to partnering with local entities, the CWCB will partner with the Colorado Municipal League, Colorado Counties Incorporated and the Special District Association to ensure successful integrated water and land-use planning.
   - The DOLA is involved in the land-use in the local government arena. Like the CWCB, the DOLA can also leverage its grant funding for water and land-use planning initiatives, such as incentives for incorporating water supply into comprehensive land-use planning.
   - The DORA regulates professionals in various industries and works to create a fair marketplace. The CWCB will work with the DORA to focus on the landscape and irrigation industry or the property management industry, and to consider developing certifications for these industries to conserve water.
   - Home-building and construction organizations, such as the Home Builders Association, LEED, and the U.S. Green Building Council, will be building communities that have a direct influence on water demand. They must be involved in crafting the vision for future water-sensitive developments.

- Non-governmental organizations, such as Keystone Center, Alliance for Water Efficiency, Western Resources Advocates, American Planning Association, and economic development councils, can advance land-use and water integration innovation and research.
- Academic institutions, such as Colorado State University, University of Colorado Boulder, University of Colorado Denver, One World One Water Center-Metropolitan State, and Rocky Mountain Land Use Institute, can advance land-use and water-integration innovation and research.
- LULA brings an innovative training model that could change the way Colorado looks at this subject by breaking down institutional silos. The CWCB will work with LULA, or another local group, to create a Colorado-specific training model for the integration of sustainable, long-term, land, and water planning.
- Councils of governments make connections between the local and state government levels. Councils of governments can be strong allies in trainings and research about the land-water nexus.

5. **Funding:** The CWCB should use the WEGP funds and Water Supply Reserve Account grant funds to fund aspects of the land-use and water planning nexus. The CWCB will work with the basin roundtables to proactively seek applicants to use WSRA funds for larger regional efforts that tie more directly into the basin roundtables. It will use the WEGP funds for smaller, more localized efforts.

6.3.4 Agricultural Conservation, Efficiency, and Reuse

ACTIONS

The following actions will support Colorado's agricultural industry to make it more efficient, resilient, and capable of reducing water consumption without affecting agricultural productivity.

1. **Agricultural water incentive education program:** Over the next two years, the CWCB will work in partnership with the basin roundtables, Colorado Energy Office, the Colorado Department of Agriculture, Natural Resources Conservation Service, and Colorado State University's extension program to develop a strategic education plan. In addition to the topics Section 6.5 discussed with regard to the education and assistance program, the plan will cover the following topics:
   a. Agricultural water conservation: Outreach to the agricultural community about available agricultural water conservation techniques and incentives.
   b. Soil health: Begin a soil health education and tour program to help growers examine ways to increase net revenues while decreasing water inputs, and in some cases water consumption.
2. **Continue to support the rehabilitation of diversions and ditches:** CWCB will continue to provide grants, loans, and technical support to refurbish diversions and ditches. This action will generate saved water and reduce losses where there are benefits to recreation, the environment, and other consumptive water uses.
3. **Voluntary flow agreements:** Over the next two years, the CWCB and the DWR will work with agricultural and environmental partners to develop model language for voluntary flow agreements paired with irrigation efficiency practices. CWCB will also provide funding, facilitation, and technical support to encourage these agreements.
4. **Removal of invasive phreatophytes:** The CWCB will support the management and removal of invasive phreatophytes through grant-funding House Bill 15-1006 provides.
5. **Explore additional incentives:** The CWCB will explore additional incentives to assist basins in implementing, where appropriate, irrigation efficiency practices, and in changing crop type to a lower water-use crop.228F The CWCB should first explore these incentives through conservation demonstration and pilot projects.
6. **New agricultural lands:** The CWCB will encourage newly developed agricultural lands (currently identified in the North Platte, Yampa, and Southwest Basins) to either be very efficient or provide direct and measurable benefits to the environment.230F
7. **Administrative tracking:** Over the next three years, the CWCB will work with the DWR to explore the development of administrative means to track and administer agricultural conserved water for the purposes of marketing these waters.

8. **Watershed scale planning and improved river basin predictive models and computational tools:** The CWCB and DWR will work with stakeholders to explore the development of tools and models that can serve as an approved common baseline, upon which water court litigants and parties to administrative change cases can rely, for conservative estimates of consumptive water use, return flows, and injury.
9. **Efficiency and conservation innovation:** CWCB will continue to work with research institutions in Colorado to advance agricultural conservation and efficiency.

6.3.5 Self-Supplied Industrial Conservation and Reuse

ACTIONS

1. Examine the feasibility of water-energy nexus programs that conserve both water and energy. Some concepts to further explore include:
    a. Joint water and energy home or commercial audits.
    b. Joint rebate programs, which combine water and energy utility rebates to most effectively incentivize customers to purchase a specific energy- or water-efficient appliance.
    c. Treat water utilities as a large customer of the energy utility and explore system-wide water- and energy-reducing measures, such as reduction of distribution system leaks.
2. When exploring new water supply projects, consider opportunities for renewable energy to meet the increased demands.
3. Conduct outreach to energy companies to encourage and promote the most water-efficient technologies for energy extraction.
4. Ensure that the Colorado Energy Office continues to support energy saving associated with on-farm agricultural practices that also reduce water use.
5. Ensure that the CWCB works with the Colorado Energy Office and local agricultural producers to financially and technically support a pilot that combines renewable energy development with an alternative agricultural transfer. Such a pilot would aim to lessen the potential economic effects on the local community.
6. Ensure that the CWCB encourages energy companies to continue collaborating with agricultural and environmental interests when managing their water portfolio.
7. Ensure that the State helps to protect critical infrastructure by working with power providers to identify areas of their systems that are prone to failure or impact during water shortages and natural disasters.
8. Ensure that the State works with power providers to mitigate the possibility of curtailment in severe droughts, and to diversify their water rights portfolio.
9. Encourage demand-side management:
    a. Continue support of research into innovative ways to reuse produced water.
    b. Decrease vulnerability during times of water shortages.
10. Encourage technologies that reduce water use in energy extraction processes.

6.3.6 State Agency Conservation

ACTION

CWCB will provide grants and technical support to state agencies for the installation of high-efficiency toilets and urinals, replacement of turf grass with plants that use less water, and improvement of cooling towers.

6.4 Alternative Agricultural Transfers

ACTIONS

The CWCB should consider the following options or action steps to help ensure attainment of alternatives to permanent farmland dry-up:

1. Monitor current and future legislation necessary for the implementation of ATMs, including enhanced sharing opportunities and system agility.
2. Encourage funding grants that focus on implementing on-the-ground ATM projects, data collection, agile administration practices, ATM affordability, basin-specific ATM projects, and infrastructure modernization.

3. Support appropriate fallowing-leasing pilot projects, such as the Catlin Canal pilot project, by responding to and processing applications in a timely manner under House Bill 13-1248 (C.R.S 37-60-115). The ATM grant program could further support these projects. To proactively cultivate these projects, the CWCB will work with partners or co-sponsors to organize and conduct regional workshops. These events will enable stakeholders to share lessons learned on actual ATM projects, and to garner additional interest by discussing program benefits.
4. Encourage adaptive strategies that capture a "learning by doing" concept for pilot programs and other on-the-ground ATM applications.
5. Continue to provide ATM leadership as well as technical and financial support to basin roundtables during the development of their BIPs.
6. Assess quantitative information related to agricultural dry-up in SWSI 2016, including evaluating lessons learned and monitoring the effects of ATMs in reducing permanent agricultural dry-up.
7. Explore financial incentives through a stakeholder process as part of the funding Section 9.2 describes. These incentives or grants could include new and ongoing revenue streams and tax incentives at the local and state level.
8. Work with the South Platte, Metro, and Arkansas Basin Roundtables to explore a WSRA or an ATM grant, with municipal and agricultural stakeholders that could lead to the formation of one or more pilot regional water sharing cooperatives. The mission of a cooperative would be to facilitate water-sharing arrangements. The cooperative could include ways to determine initial start-up costs necessary to reach stated goals. For instance, methods may include acquiring funding needed to reduce barriers associated with the high transaction costs of water-rights transfers, and working through water court to make a water right more agile.
9. Continue collaborating with water users to develop tools and models that can be used as an approved common baseline for water court litigants and parties. Administrative change cases could rely upon these for conservative yet streamlined estimates of consumptive use, return flows, and injury.
10. Seek to help stakeholders understand the benefits and social barriers of ATMs and how they can function under existing and future law.
11. Interact with the Colorado water community and decision makers to consider the following options in support of ATM goals:
    - Continue to monitor basin-level work and explore options to develop agility in the use of certain agricultural water rights for multiple purposes.
    - Implement tools Senate Bill 15-198 (C.R.S. 37-60-115) provides that broaden pilot-project end uses House Bill 13-1248 (C.R.S. 37-60-115) sets forth. Such pilot projects could demonstrate agricultural transfers that meet environmental, recreational, industrial, or compact needs in addition to urban needs. The CWCB will encourage pilot projects to test the latest concepts or meet multiple benefits.
    - Reduce barriers, such as high transaction costs associated with water-rights transfers and water-rights accounting uncertainties, through continued exploration of pilot projects and other voluntary transactions that demonstrate a streamlined approach or provide financial support.
    - After a thorough outreach and stakeholder process, consider legislation to protect existing municipal, transferred water-rights owners that choose to undergo the court process to demand that their permanent agricultural transfers operate as ATMs. Such legislation could help ensure that a water-rights owner could revert to its previously adopted stipulations, if the water court process for an ATM option yields an unfavorable outcome.
    - Strengthen recognition for new types of legal beneficial uses, such as leased or agile-use water.
    - Identify and develop a request for a multi-basin WSRA grant through the basin roundtables. The goals of a potential grant would be to compile ATM data, identify actions to encourage irrigators to enter agreements, analyze barriers, and increase program awareness.

- Research benefits and challenges of "buy and supply," which could preserve local irrigated agriculture and associated benefits. The concept of "buy and supply" is that M&I water users purchase irrigated lands with associated water rights, establish a conservation easement for future farming, and then supply a full amount of water for a certain number of years within a 10-year period. The M&I user could then receive water supply in the remaining non-farming years.
- Explore the possibility of third parties providing assistance in funding ATMs to ensure that farmers are appropriately compensated and that water suppliers pay a reasonable incremental cost for firm yield. In this case, the third party would essentially assist in the effort to uphold the value of continued viable agriculture.
- Support research into the benefits and challenges of temporary rotational "idling" of crops, deficit irrigation, and split-season irrigation.
- Incorporate improved water-use data into decision-making processes in a way that reduces uncertainty for water managers, and develop basin-specific models for use in water court cases to help reduce transaction costs.

6.5 Municipal, Industrial, and Agricultural Infrastructure Projects and Methods

ACTIONS

Colorado's Water Plan sets a 2050 measurable objective to attain 400,000 acre-feet of innovative storage in order to manage and share conserved water and the yield of IPPs. This objective equates to an 80 percent success rate for these planned projects, as stated in the IBCC's No-and-Low Regrets Portfolio.

While the right to buy or sell private property water rights must not be infringed upon, the State will encourage innovation and creativity by agricultural producers and research institutions to maximize the productivity of every drop of water. Colorado's Water Plan sets an objective that agricultural economic productivity will keep pace with growing state, national, and global needs, even if some acres go out of production.

To support projects and methods that meet future municipal, industrial, and agricultural needs, several next-steps are necessary.

1. **BIP project support:** The CWCB will continue to support and assist the basin roundtables in moving forward the municipal, industrial, and agricultural projects and methods they identified in their BIPs. It will accomplish this through technical, financial, and facilitation support when a project proponent requests it.
2. **Climate change incorporation:** The CWCB will work with the basin roundtables and, upon request, work with project proponents, to incorporate the potential effects of climate change on municipal, industrial, and agricultural projects and methods.
3. **Expansion of projects to be multipurpose:** The CWCB will prioritize funding to the basin roundtables to support an integrated approach to understanding the ways in which environmental and recreational projects and methods may interact with municipal, agricultural, and industrial projects and methods. As part of this task, basin roundtables will work with local stakeholders and project proponents to explore multipurpose projects and convert existing and planned single-purpose projects and methods into those that are multipurpose.
4. **Project tracking:** In partnership with the basin roundtables, the CWCB will continue to track municipal, industrial, and agricultural projects and methods.
5. **Project support:** The CWCB will continue to support and implement State programs that contribute to implementing municipal, industrial, and agricultural projects and methods. These include loan and grant programs, as well as ongoing studies, such as the SWSI.
6. **Project funding:** As Section 9.2 discusses, the CWCB will work with partners to strengthen funding opportunities for municipal, industrial, and agricultural projects and methods by:
   a. Coordinating current funding
   b. Assessing funding needs
   c. Exploring additional funding opportunities

7. **Storage opportunity assessment:** As part of the next version of SWSI, the CWCB will work with the DWR and local partners to assess storage opportunities to determine where existing storage can and should be expanded, where it is needed to prepare for climate change, where it can help to better improve sharing and use of conserved water, and where it can help meet Colorado's compact obligations. Furthermore, the CWCB will provide financial support to technical and practical innovations in the use of aquifer storage and recharge where it is practicable.
8. **Multipurpose project funding:** The CWCB will prioritize support for multipurpose projects and those that modernize, make more efficient, or lead to the building of new critical infrastructure for agriculture purposes, M&I uses, and hydropower production. Section 9.2 explores these programs.
9. **Permitting:** As Section 9.4 discusses, the CWCB will refine the permitting process to make it more effective and efficient.
10. **Technical and financial support of efforts to understand impacts to agricultural viability:** The CWCB and IBCC will work with stakeholders to provide grassroots-level support for efforts that foster a greater understanding of the effects of reductions in agricultural use on communities.
11. **Facilitation of agricultural opportunities:** The CWCB and the CDA will establish an education and assistance program for farmers and ranchers to help realize more transactions that allow for ATMs, and to enable new Colorado farmers to successfully enter the agricultural industry. This assistance may include financial and other support for land links, land trusts, and conservation easements that protect working farmland and make irrigated land affordable for the next generation of farmers and ranchers. The CWCB will need to create the program's scope of work, goals, geographic range, and responsibilities, in addition to measurements for success. Because many aspects of the program relate to agreements between municipalities and agricultural producers, the CWCB should involve both sectors in the development of the program, and should provide continued input.
12. **Enforcement of minimum standard for water-rights applications:** The court should be diligent in enforcing the minimum water-rights application requirements, which are already in existence, and should standardize these requirements statewide. Better guidance for applicants who do not have legal counsel or engineering consultants should be provided and advertised.
13. **Framework for evaluations of agricultural transfers:** The CWCB will develop a technical and legal framework for an evaluation of agricultural transfers before considering the requirement of such an evaluation. To help produce such a framework, the CWCB will host a stakeholder group, which will include local government, agricultural producers, municipalities, water providers, landowners, and environmental interests.
14. **Update and improve Colorado's aging agricultural infrastructure:** Over the next five years, the CWCB will work with the basin roundtables and agricultural partners to further identify and prioritize aging infrastructure projects, especially where there can be a large effect on or multiple benefits to other sectors. The CWCB will coordinate funding opportunities to address these needs.
15. **Encourage ditch-wide and regional planning:** Over the next two years, the CWCB will work with agricultural partners to explore opportunities to conduct ditch-wide and regional planning, such as the planning that is occurring in the Uncompahgre. These plans will explore system-wide conservation and efficiency opportunities, explore the potential for water sharing, and develop a long-term infrastructure-maintenance and -upgrade plan.

6.6 Environmental and Recreational Projects and Methods

ACTIONS

A strong Colorado environment is critical to the state's economy and way of life. Colorado's Water Plan sets a measurable objective to cover 80 percent of the locally prioritized lists of rivers with stream management plans, and 80 percent of critical watersheds with watershed protection plans, all by 2030.

To support a strong environment that includes healthy watersheds, rivers and streams, and wildlife, as well as a robust recreation and tourism industry, several actions are necessary:

1. **Technical work:** As part of the next version of SWSI, the CWCB, in consultation with the basin roundtables, will conduct additional technical work associated with the environmental and recreational focus areas to better determine the levels of existing protections, and where additional projects and methods should focus.
2. **Near-term projects and methods to address high-priority needs:** The CWCB will work with CPW, the basin roundtables, and other relevant agencies to establish and achieve measurable outcomes for (a) federally and state-listed endangered and threatened species, and imperiled species; and (b) economically important water-based recreational uses. It will accomplish this by developing a plan within the next three years that compiles and develops near-term projects and methods that address these high-priority needs, including projects the BIPs identified. This work will build on the work of the basin roundtables and the SWSI, including the work done in Action 1 above. At the same time, the CWCB will continue to provide technical and financial assistance to support the strategic implementation of currently identified projects.
3. **Common metrics:** In coordination with other state agencies, basin roundtables, and other stakeholders, the CWCB will develop common metrics for assessing the health and resiliency of watersheds, rivers, and streams.
4. **Watershed master plans:** As Section 7.1 indicates, the CWCB will work with watershed and other stakeholder groups toward a long-term goal of developing watershed master plans for every large watershed area to maintain watershed health. The CWCB will encourage and support capacity in areas that currently do not have watershed groups or other broad, local stakeholder groups.
5. **Stream management plans:** To promote healthy watersheds, rivers, streams, and wildlife, the CWCB encourages and will work with basin roundtables and other stakeholder groups to develop stream management plans for priority streams identified in a BIP, or otherwise identified as having environmental or recreational value. As part of this work, the CWCB will provide guidelines and templates for developing stream management plans, and will conduct ongoing analyses through the SWSI. To ensure continued planning and implementation in this context, the CWCB will explore additional funding sources, in addition to funding sources the 2015 CWCB Projects Bill provides.
6. **Incorporation of drought and climate change:** The basin roundtables and the CWCB will incorporate into the BIPs and the next update of the SWSI the potential effects of drought and climate change on environmental and recreational attributes.
7. **Multipurpose projects:** To support the development of multipurpose projects and methods, the CWCB will work with the basin roundtables and other stakeholders on an integrated approach to understanding how environmental and recreational projects and methods can interact with municipal, agricultural, and industrial projects and methods to achieve multiple benefits. The CWCB will strategically support the implementation of BIP-identified multipurpose, projects, and methods that help meet environmental, recreational, agricultural and community water needs. It will accomplish this with state financial and technical resources, taking into consideration locally identified geographic and/or seasonal gaps. This will include establishing priorities in Colorado's grant and loan programs for multipurpose projects and

methods. Working with the basin roundtables and BIPs, the CWCB will also coordinate with project sponsors to explore and support opportunities to increase benefits to environmental and recreational values associated with existing and planned storage and infrastructure.

8. **Proactive implementation of existing programs:** The CWCB, other state agencies, basin roundtables, and other interested stakeholders will continue to support and implement state programs that benefit environmental and recreational attributes, such as the Colorado Watershed Restoration Program, Instream Flow and Natural Lake Level Program, Wild and Scenic Rivers Act Alternatives Fund, and CPW's Wetlands for Wildlife Program. The DNR and its agencies will institute policies, criteria, and programmatic approaches to proactively developing projects and methods that strategically address important aquatic, riparian, and wetland habitats.
9. **Continued support of ESA activities:** The CWCB, CPW, and water users will continue to support and participate in collaborative approaches to ESA issues, including recovery programs, cooperative agreements, and other efforts to prevent listings and promote the sustainability of endangered, threatened, and imperiled aquatic- and riparian-dependent species and plant communities.
10. **Broadened support of recreational uses:** The CWCB will support local governments with water recreation opportunities through continued technical consultation and funding, where appropriate. To assist with water project planning, the CWCB will support the development of tools that can be used to better understand the relationship between stream flows and recreational water uses. Additionally, the DNR will explore opportunities to protect instream flows for recreational uses without the requirement of a control structure.
11. **Funding:** As Section 9.2 discusses, the CWCB will work with appropriate entities to strengthen funding opportunities for environmental and recreational projects, including funding for long-term monitoring and maintenance of such projects, by:
    a. Coordinating current funding
    b. Assessing funding needs
    c. Exploring additional funding opportunities

Chapter 7: Water Resource Management and Protection

7.1 Watershed Health and Management

ACTIONS

To better understand and promote watershed health, it is important to support the development of watershed coalitions and watershed master plans that address needs from a diverse set of local stakeholders. The parties responsible for implementing action plans should be watershed coalitions and forest partnerships. Water-supply stakeholders should participate in the development of effective watershed coalitions. The Watershed Wildfire Protection Group, other watershed groups with a state- or region-wide geographic scope, and state agencies focusing on watershed health should manage coordination across watershed divides. State agencies include CPW, the CDPHE, and the CWCB.

Actions include:

1. Identify existing watershed coalitions and existing watershed plans and assessments, including source-water protection plans.
2. Encourage and support capacity in many areas that currently do not have watershed groups or other groups that work with a broad set of local stakeholders.
3. Assist stakeholders in existing watershed groups to identify tools and resources that address gaps and build capacity in existing plans.
4. Identify public and private funding sources that together can support watershed- and forest-health projects.
5. Identify watersheds that are critical to water supply.
6. Work toward a long-term goal of developing watershed master plans for watersheds critical to consumptive and nonconsumptive water supply.
7. Prioritize and implement projects identified in master planning.
8. Monitor projects to ensure that objectives are met and maintained
9. Conduct adaptive management as necessary

10. Coordinate statewide watershed-coalition and partnership plans, projects, monitoring, and adaptive management strategies.

11. Watershed management plans may include potential impacts to the environment, public water supplies, and agricultural production from abandoned mines, and a strategy for addressing these impacts. CDPHE and DRMS are potential partners in developing a prioritized list of mines which could impact streams.

7.2 Natural Disaster Management

ACTIONS

1. Where appropriate, the State of Colorado will continue to support and expand drought, flood, and wildfire preparedness and response programs.
2. The State of Colorado will actively encourage local communities to develop drought preparedness plans by providing tools and resources for development and implementation.
3. The CWCB and the Colorado Recovery and Resiliency Office will implement the actions identified in the Colorado Resiliency Framework to build communities that are more resilient to natural disasters.
4. The CWCB and CDPHE will work with utilities, federal agencies, and others to proactively identify and address regulatory barriers to climate preparedness and adaptation.

7.3 Water Quality

ACTIONS

The WQCD worked with the Colorado Water Quality Forum and the WQCC to develop recommendations. As the CWCB updates the Colorado's Water Plan in the future, these recommendations will serve as a starting point for implementation efforts focused on:

A. Integrated water quality-and-quantity management.

B. Policy considerations.

C. Financial considerations.

D. Stakeholder and public outreach.

In addition, the State will assign these recommendations to a responsible party and prioritize them for implementation over time.

A. Integrated Water Quality and-Quantity Management Actions

Recommendations to promote increased integration of water quality and -quantity management include:

1. Evaluate the water quality effects associated with the proposed solutions and scenarios the BIPs and Colorado's Water Plan (Sections 6.3 through 6.6) have presented. Identification of those effects will help define the scope of strategies that entities need to explore to protect and restore water quality. The State will share information about these effects among all involved parties.
2. In cooperation with basin roundtables, the CWCB, and others, define opportunities for projects or processes that restore and enhance existing water quality conditions, with an aim of addressing potential water quality effects resulting from water-quantity solution implementation. An initial step will be to assist the basin roundtables in developing water quality goals, objectives, and measurable outcomes based on current water quality information; each basin will be able to use this information when updating its BIP. This collaboration supports the basin roundtables in identifying projects and methods that integrate water quality and -quantity management to protect and restore water quality.
3. Define green-infrastructure approaches for the arid West, and explore ways in which entities can use green infrastructure to address Colorado's consumptive and nonconsumptive gaps. For example, green infrastructure in the arid West can go beyond stormwater management activities and low-impact development methods by including landscape-scale land-use planning that identifies where activities should occur in order to meet dynamic goals, including protecting and restoring water quality. Green-building and stormwater management groups have developed information that provides a starting point for developing and maintaining a library of green-infrastructure options.

4. Evaluate new water-supply projects and the potential for multiple benefits, including water quality protection and enhancement. Strive to ensure that project plans incorporate all water quality benefits.
5. Examine ways to design and operate new or existing supply projects to advance water quality objectives. Actively pursue incorporation of these design and operation considerations into proposed projects.
6. Identify the role of reuse by developing a library of reuse examples, such as direct potable reuse, indirect potable reuse, non-potable reuse, graywater use, onsite water recycling, and the associated water quality issues for each type of reuse. Ensure that any initiative that desires to use these resources addresses the issues. Section 6.3 further discusses reuse and identified actions.
7. Promote the use of aquifer storage and recovery, since water quality effects associated with this storage strategy are minimal.
8. Explore the role of stormwater management from both a quality and a quantity perspective in order to determine whether stormwater is a viable additional source of supply to address consumptive needs.
9. Address nonpoint sources through ongoing management activities, which play an important role in protecting and restoring water quality for the benefit of future water uses. These activities should include cataloguing and evaluating local-government land-use planning tools that minimize nonpoint-source pollution associated with development. Entities should also explore a comprehensive approach to nonpoint-source management, including water- quality trading.
10. Identify the risks of climate change as they relate to integrated water quality and water-quantity management. Develop specific recommendations for addressing these risks.
11. Explore how entities can most efficiently and cost-effectively integrate the CWA requirements and Safe Drinking Water Act requirements. Develop specific implementation recommendations.

B. Policy Considerations

Chapter 10 of Colorado's Water Plan summarizes legislative recommendations. In addition to the legislative recommendations, policy considerations related to quality and quantity integration include:

1. Continue to engage in creative, solution-oriented actions, such as implementing site-specific standards, temporary modifications, discharger-specific variances, pollutant trading, and conditional 401 water quality certifications. Use all available means to improve water quality and protect the high-quality waters that are considered better-than-necessary for supporting classified uses. Maintain ongoing, non-regulatory programs, including nonpoint-source management and source-water protection planning. These solution-oriented actions will also be necessary for addressing the effects of climate change.
2. As entities continue to maximize wastewater reuse in Colorado, establish a more complete understanding of the concept of "net environmental benefit." This concept demonstrates that the ecological value of using effluent to support riparian and aquatic habitats exceeds the ecological benefits of removing the discharge from the waterbody.
3. Review and appropriately modify existing regulations, guidance, and policy documents for new types of wastewater reuse so that revisions will protect public health and the environment, while also providing sufficient flexibility for water suppliers to develop new water-reuse projects across the state.
4. Consider and document the water-rights implications of water quality strategies and the water quality implications of water development strategies as they both pertain to integrated water quality and -quantity management. For example, integrated stormwater management may have effects on downstream flows, and entities would have to understand and address possible water-rights effects before implementing such a strategy.

Chapter 9 Alignment of State Resources and Policies

9.1 Protecting Colorado's Compacts and Upholding Colorado Water Law

ACTIONS

The following actions will promote continued collaboration among the State of Colorado and federal, state, tribal, and local entities regarding 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 of Colorado will continue to uphold the prior appropriation doctrine.**

1. The CWCB encourages ongoing efforts to make the water court system more efficient—including the work of the Water Court Committee of the Colorado Supreme Court. CWCB envisions that these efforts will make the prior appropriate doctrine process more efficient and easily navigated, while maintaining the protection of these important private property rights.
2. The IBCC's work on potential legislative solutions suggests that broad stakeholder input is needed to garner support for achieving process improvements through the legislative process. The CWCB will explore potential avenues for broad input on improvements to the water court process, whether through the roundtable and the IBCC process, or other mechanisms.
3. Using broad stakeholder input to garner support, the CWCB will explore potential avenues for achieving process improvements that will make Colorado's existing water law system more agile, effective, and efficient.

B. **The State of Colorado 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 ensure 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 ensure that their responsibilities are implemented in a way that respects Colorado's compact and decree entitlements, and respects the State's authorities to administer waters within the state.

C. **The State of Colorado will continue to ensure a proper balance between state and federal roles in Colorado's water law and water management system.**

1. The CWCB and the 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, while recognizing the authority of 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 statewide stakeholder participation and educational efforts.

2. The CWCB's future study and collection of collaborative stakeholder input will help the CWCB 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 users in 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 resolve will be the potential scope of demand management. The greater the number of existing uses such a collaborative program will cover, the greater the number of necessary voluntary reductions and amount of compensation.

9.2 Economics and Funding

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. Colorado alone has nearly $20 billion in identified water project needs, including water supply and environmental and recreational projects. 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 (§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 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.

9.3 State Water Rights and Alignment ACTIONS

Based on the information compiled in the state agency water rights inventory process, the state agencies this section discusses 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 to 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 comprising multiple agencies' staff members. These work groups will 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 Colorado's Instream Flow Program.

b. Encourage sharing and optimal use of water among state agencies where efficiency savings might be realized.

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 rights in the project could be used for compact compliance purposes. There may be other state resources that could assist in complying with the State's 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 multipurpose 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 Chapter 1 outlines.

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.[1]

9.4 Framework for a More Efficient Permitting Process

ACTIONS

One of the main goals of Colorado's Water Plan is to find ways to support the implementation of the BIPs. While the permitting process supports the statutory and regulatory requirements of each permitting agency without predetermining the outcome, increased efficiency in the process is a significant means of assisting project proponents. While the decision could be "yes" or "no," having a decision, no matter what the outcome is, would be beneficial to the State's planning process and help remove uncertainty.

The actions below help determine efficiencies, where possible, and increase coordination. These actions will also provide an incentive that encourages multi-purpose projects with many partners, especially for projects that meet Colorado's water values, such as enhanced conservation and efficiencies. In addition to the Water Plan, the state and federal permitting partners will develop a handbook detailing 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. Specifically, the lean events will examine how to eliminate redundant review efforts, reduce duplication of technical methods, and increase clarity on the required technical elements, as well as coordinate assessment methodology.

2. In partnership with local, state, and federal agencies, the DNR will coordinate the development of a permitting, certification, and mitigation handbook to reflect the updated permitting process.

[1] CPW 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. 460l-4 to 460l-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.

3. State agencies with permitting authority will actively participate as cooperating agencies from the outset of the regulatory process, and will encourage parallel processes.
4. Where more than one agency has jurisdiction over a particular issue, the agencies will work together to identify a lead state agency, and a memorandum of understanding will be agreed to by both agencies to assist in the coordination.
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. State and federal partners will work together to encourage cooperation through the CAWS MOU process, which factors in conservation as a demand-reducer.
7. State agencies with permitting authority will work with local governments and stakeholders to determine how Colorado will express support for or rejection of a project at the appropriate time during the review process in order to encourage the completion of the federal permit process in a timely manner.
8. In order to encourage stakeholder work prior to a project proponent applying for a federal permit, CWCB will serve as or fund an impartial facilitator between stakeholders as part of pre-application work when requested by a project proponent.
9. The State will coordinate with federal partners to determine if there are opportunities to improve the federal permitting process that stem out of the BIPs or efficiencies identified by the lean process.

9.5 Outreach, Education, and Public Engagement

ACTIONS

Colorado's Water Plan sets a measurable objective of significantly improving the level of public awareness and engagement on water issues statewide by 2020. Colorado's Water Plan also sets a measurable objective of engaging Coloradans statewide in an educational challenge to create innovative solutions to address at least 5 water challenges identified by CWCB that should to be addressed by 2030. Based on the analysis this section presents, the CWCB makes the following recommendations, which will enhance Colorado's water outreach, education, and public engagement and advance the water supply planning process.

1. **Create a new outreach, education, and public engagement grant fund:** As part of the funding package Section 9.2 discusses, the DNR will evaluate a new outreach, education, and public engagement grant fund, which the CWCB would administer through the basin roundtables. Specific attributes of the grant fund could include the following:
   a. Similar to WSRA funds, these funds could be available for eligible outreach, education, and public engagement projects that meet specific CWCB-developed criteria and guidelines that align with Colorado's Water Plan goals.
      - The funds could be considered for the proposed outreach, education, and public engagement projects already outlined in the BIPs and each basin roundtable's PEPO Education Action Plan.
      - Guidelines could prioritize grants dedicated to projects that assist the basin roundtables with communication, outreach, and public education efforts related to issues that Colorado's Water Plan or the BIPs addressed.
      - Guidelines could stress the importance of measuring success and targeting specific audiences and approaches, and could include other education and outreach best practices that lead to successful public engagement.
2. **Create a data-based water education plan: Over the next two years, the CWCB will create a data-based water education plan by:**
   - Conducting a survey to update the Water Education Task Force Report, which assessed water education programs across the state.
   - Determining critical gaps in water education, both geographically and topically.
3. I**mprove the use of existing state resources: The CWCB:**
   - Will work with stakeholders to identify five water challenges that Colorado's innovation community could help solve, develop an award program, and engage Coloradans in the challenge.

- Will work with Colorado's innovation community, education and outreach experts, research institutions, and the Governor's Colorado Innovation Network (COIN) to address Colorado's water challenges with innovation and "outside the box" creativity.

- Will incorporate education and outreach components in the WSRA grant criteria and guidelines.
- Will initiate efforts to improve coordination between state agencies on outreach and education activities. This will include the development of performance metrics and a database to track efforts.
- Intends to foster continued engagement of the Water Education Task Force and use the network of existing water educators in a coordinated fashion to educate the various and diverse audiences in Colorado.

Chapter 11 Updating Colorado's Water Plan

Actions

1. The CWCB will work with other state agencies, the basin roundtables, and the people of Colorado to update Colorado's Water Plan, beginning no later than 2020.
2. The CWCB will develop guidelines for Basin Roundtable WSRA grants to help facilitate the implementation of the BIPs.

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