Introduction: Collaborating on Colorado's Water Future

People love Colorado. Our state's population ballooned from 1 million in 1930 to more than 5 million today, and is projected to grow at even faster rates in the future. So how do we ensure that this population growth doesn't change what we know and love about our state—including our precious natural resources, and particularly, our water resources? When it comes to our water, Colorado's Water Plan has answers.

COLORADO'S WATER PLAN HAS ANSWERS

One of the views at Sakata Family Farms in Brighton, Colorado. The farm produces more than 1,600 acres of vegetables each year. Photo: M. Nager.

This plan articulates collaborative, balanced water solutions to Colorado's water challenges. Equally important, it establishes the method by which we will continue to find solutions to those challenges into the future. This method is based in our grassroots basin roundtable structure and the geographic representation that forms the Colorado Water Conservation Board (CWCB).

If Colorado's water is managed strategically, our state has enough water to meet our needs well into the future. As is the case with other Western states, Colorado does not have enough water to meet historic and future uses in a balanced manner without a collaborative plan of action. Our principal water challenge lies not in the amount of water we're given, but in our management of what we have under Colorado's unique legal system, and given the diverse needs and values of citizens. Colorado's Water Plan offers a suite of actions for present and future Coloradans to measurably achieve this strategic balance.

Moving forward, the implementation of identified actions in this plan and the Basin Implementation Plans (BIPs) will decrease uncertainty and close identified supply gaps in a manner that encourages collaboration, innovation, and protection of Colorado's water values. State agencies and basin stakeholders must gain measurable progress on these identified actions, or the status quo will continue and uncertainty will increase unabated.

THE COLORADO WATER CONSERVATION BOARD

The CWCB is Colorado's water planning and policy agency and is responsible for stream, watershed, and lake protection; water conservation; flood mitigation; stream restoration; drought planning; water supply planning; and water project financing. The agency works to protect the state's water apportionments in collaboration with other Western states and federal agencies.[1]

We have used the real and looming "gap" between water supply and demand to catalyze action on water in Colorado. The challenges ahead are numerous, and the CWCB and stakeholders around the state have identified inherent difficulties and points of contention through our grassroots process:

- Establishing cooperative alternatives to the rapid removal of water from farms and ranches to supply urban growth.
- Implementing projects and methods that take into account potential multiple beneficiaries, potential multiple uses, and the effects on river systems on which all Coloradans rely.
- Replacing the continued mining of groundwater aquifers to supply municipal growth with renewable water resources and the implementation of collaborative projects and methods.
- Developing a statewide conservation ethic that recognizes the need to work within Colorado's naturally arid environment, increases the understanding of conservation practices, and reduces wasteful behavior.
- Improving regulatory processes for critical water storage projects to reduce project costs and time commitment while maintaining the integrity of permitting review.
- Establishing a plan with stakeholders and water managers statewide to finance the daunting cost of water infrastructure projects (municipal, industrial, and environmental).
- Strengthening state water management policies and tools to ensure state and local control - as opposed to federal intervention - over water management decisions.
- Allowing for efficient and effective water sharing by overcoming such hurdles as high transaction costs.
- Continuing to promote agility in Colorado water law and administrative practices, which have proven to be flexible enough to meet challenges presented by competing uses and increasing demands while protecting private property rights.
- Cooperating more efficiently across state agencies with different statutory mandates, so that regulatory and policy decisions are made in a more adaptive manner.

Boating on Grand Lake, Colorado's largest natural lake, near Rainbow Bridge. Photo: M. Nager.

If we do nothing, these challenges demonstrate the uncertain future we will hand down to our children and grandchildren. It is a future without a value-based strategy. Colorado's Water Plan offers an alternate path. This path will not solve all our problems, and it will not be easy. It will require the continued hard work and effort of Coloradans both inside and outside of the water profession, as well as measurable progress made on items identified in the Critical Action Plan.

This strategic plan is the first of its kind for Colorado: a plan by Coloradans, for Coloradans. Colorado's Water Plan is designed to be dynamic so that it can evolve as Colorado grows and transforms. While the plan reflects the most current water data available, the CWCB will update the plan as data, needs, and projections change.

Colorado's Water Plan is rooted in a thoughtful, strategic approach initiated by Governor John Hickenlooper. In May 2013, Governor Hickenlooper issued Executive Order D 2013-05, which directed the CWCB to prepare a water plan for Colorado (see Appendix A). The order directed the CWCB to:

A. Create a water policy that reflects Colorado's water values.

B. Work with the Governor's Office to complete the final plan no later than December 10, 2015.

C. Align state support of projects, studies, funding, and other efforts to Colorado's Water Plan to the greatest extent possible.

D. Align the state's role in water project permitting and review processes with the water values, and streamline the state's role in the approval and regulatory processes regarding water projects.

E. Utilize the Interbasin Compact Committee (IBCC) and the basin roundtables in drafting Colorado's Water Plan, as well as review and build upon discussions and points of consensus that have emerged as part of the IBCC and basin roundtable processes to capitalize on the momentum generated by these grassroots efforts.

F. Work with its sister agencies and other relevant state agencies as needed.

G. Reaffirm the Colorado Constitution's recognition of priority of appropriation while offering recommendations to the governor for legislation that will improve coordination, streamline processes, and align state efforts.

Colorado's Water Values

This plan acts as a foundation for Colorado to honor the State's core water values. The CWCB developed these water values, set out in Governor Hickenlooper's executive order, by assessing the grassroots work the IBCC and the basin roundtables conducted.

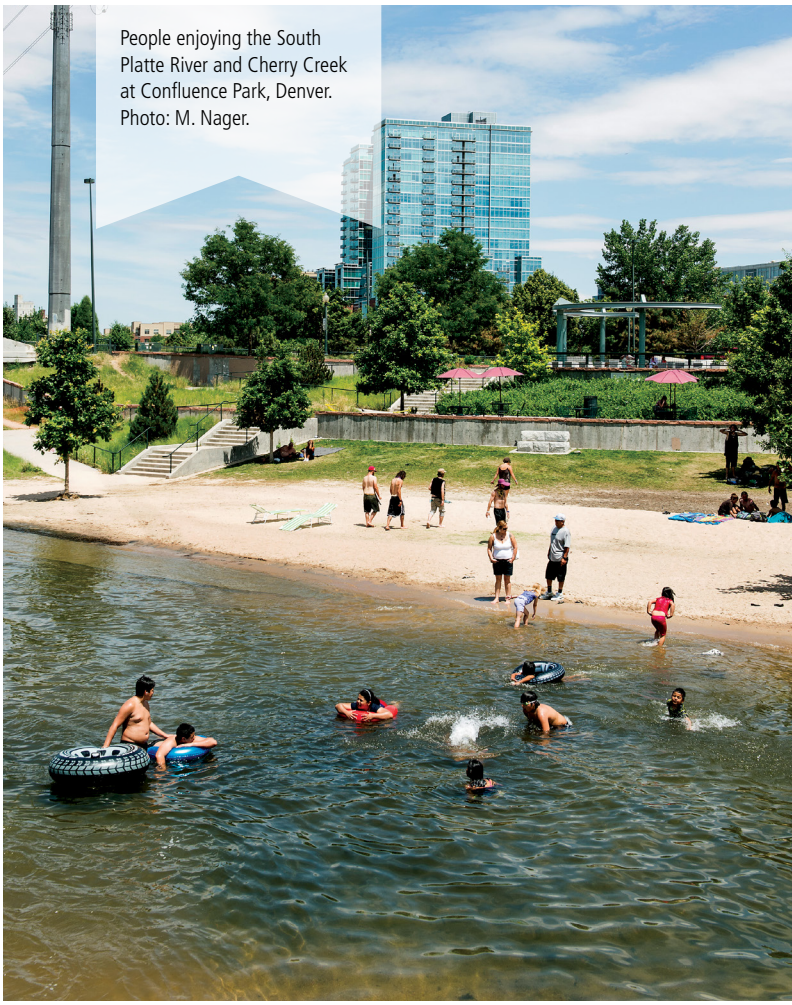
COLORADO'S WATER VALUES[2]

- A productive economy that supports vibrant and sustainable cities, viable and productive agriculture, and a robust skiing, recreation, and tourism industry;
- Efficient and effective water infrastructure promoting smart land use; and
- A strong environment that includes healthy watersheds, rivers and streams, and wildlife.

Our History of Collaboration

The year 2015 marks more than a decade of unprecedented efforts to engage diverse stakeholders and develop water planning information, serving as the foundation of Colorado's Water Plan. Over the course of the past decade, Coloradans from all sectors of the economy and all corners of the state have identified the need for a focused plan for the future.[3]

CWCB established the roots of the water plan when Colorado experienced extreme drought in 2002 and 2003. When some municipalities were mere weeks away from running out of water, it became apparent that there was need for a comprehensive analysis of Colorado's water needs. That realization sparked the Statewide Water Supply Initiative (SWSI).[4] Today, the CWCB leads the SWSI, conducting an ongoing analysis of Colorado's water resources, and in providing key technical data and information that are used to guide decision-making. The SWSI also takes different climate variability scenarios into account. As a result of the SWSI and other technical work performed by the agency, Colorado has more information today than ever before about available water supplies and agricultural, environmental, recreational, and community water needs.



People enjoying the South Platte River and Cherry Creek at Confluence Park, Denver. Photo: M. Nager.

Vineyards in the Grand Valley, near Palisade. The valley is a major fruit growing region, with a large number of orchards including wine grapes and peaches. Photo: M. Nager.

In 2005, Colorado leaders recognized the need to depoliticize water issues for the good of the entire state. The General Assembly passed, and Governor Bill Owens signed, House Bill 1177, which created 10 essential stakeholder engagement bodies. These bodies included the IBCC and nine basin roundtables.[5] The 27 members of the IBCC represent every basin and take into account nearly every water perspective in Colorado. The IBCC agrees that steps must be taken in the near future to avoid undesirable consequences that would result from a growing water gap.[6]

In 2014, each basin roundtable developed a draft Basin Implementation Plan (BIP) that examined each basin area's future water needs and provided strategies for addressing those needs. The basin roundtables brought together representatives from the business community, local government, and water users, as well as stakeholders representing the environment, agriculture, recreation, and various industries. Providers from each of Colorado's major river basins and the Denver metro area began mapping out each basin's needs. The grassroots approach of the basin roundtables and the IBCC (which engaged hundreds of stakeholders across diverse sectors and regions) enabled citizens in each basin to share their vision for Colorado's water future. This "produced informed discussions, provided a forum for building consensus, and generated momentum."[7] The last decade has focused on actively engaging communities through concerted public involvement, and on developing balanced, locally driven, collaborative water management solutions. Those solutions form the building blocks of this water plan.

Why Do We Need a Water Plan?

Many people regard Colorado as one of the best locations in which to live, work, and play.[8] As a result, more and more people and businesses are moving to Colorado and staying. Even with a robust conservation ethic, this growth will increase demand for water. At the same time, we as a state have witnessed sustained and systemic drought on a scale never before recorded by humans. This gap between water supply and our increased demand for water results in the possibility of a significant shortfall within the next few decades, even with aggressive conservation and additional water projects.[9] To complicate matters further, precipitation patterns and amounts have recently shown their ability to swing and vary wildly. For example, in 2013, Colorado suffered from systemic drought and deadly flooding simultaneously.[10]

The Historic Arkansas Riverwalk of Pueblo, a riverfront promenade with family-oriented activities and events including boat rides and concerts.

These are the big water challenges facing Colorado:

- **Growing water supply gap:** The gap between municipal water supply and demand is growing, and water conservation and the completion of proposed water projects are likely insufficient to address projected 2050 shortfalls that could total more than 500,000 acre-feet statewide.[11]
- **Agricultural dry-up:** The purchase and permanent transfer of agricultural water rights is causing irrigated agriculture to disappear. At the current rate of transfer, there will be a major reduction in Colorado's agricultural lands in the future. This could affect Colorado's economy and food security. In addition, rural communities could suffer along with agriculture if enough agricultural business goes away.[12]
- **Critical environmental concerns:** A key component of Colorado's brand is its natural environment. We must address water quality, watershed health, and ecosystem resilience in light of water demands and a changing climate. An increasing number of fish species in Colorado are at risk of becoming endangered because of habitat loss. This risk has the potential to increase if agricultural, municipal, and industrial water needs are set up to clash with environmental and recreational water needs.[13]
- **Variable climatic conditions:** Climate change and its associated effects make it more difficult to meet Colorado's future water needs because of diminishing supplies, increased demand for water, and potential big swings in precipitation patterns and amounts of precipitation in the future. Chapters 4 and 5 discuss this phenomenon at length.[14]
- **Inefficient regulatory process:** Colorado requires a more efficient regulatory process if we as a state are to effectively respond to our water challenges. By encouraging up-front collaboration and resource prioritization, Colorado can do its part to move multi-partner and multipurpose projects forward more quickly.
- **Increasing funding needs:** Colorado faces a financial gap in addressing future environmental, recreational, agricultural, and communal needs. Without adequate investment, Colorado cannot effectively address the challenges described above.

The Gunnison River flowing through the Black Canyon of the Gunnison National Park near Montrose. The Gunnison River is managed for a range of needs.
Photo: M. Nager.

Winter river flowing on Telluride's Valley Floor. A conservation easement protects 560 acres of open space in perpetuity.

Colorado's Water Plan as a Roadmap

This plan is focused on achieving the right balance of water resource management strategies. It recognizes that water is important for all sectors and regions in Colorado, and greatly affects Coloradans' livelihoods.

Water connects Colorado. While the majority of our precipitation falls west of the Continental Divide, the majority of our state's people reside to the east. Through a vast infrastructure, we move water from the west to the east in large quantities every year. Western slope ranchers finish their cattle on the eastern slope, and process and distribute them there. The people who live in the eastern slope consume western slope peaches and wine. The western slope offers world–class recreational opportunities, and Front Range families are the largest users of these recreational opportunities and own many of the second homes in western slope communities. The Front Range is the economic hub of Colorado, accounting for almost 75 percent of the state's gross domestic product.[15] Water is one of our most critical, contentious, and shared resources, but because we are all connected, Colorado's success depends on the ability of all regions to work collaboratively to solve challenges.

This plan takes into account Colorado's history, legal system, policy structure (which includes local, state, and federal laws, institutions, and players), and institutional arrangements that influence decisions about Colorado's water resources. Colorado's Water Plan affirms the private ownership of water rights under the state's prior appropriation system. Furthermore, this plan supports the authorities and responsibilities of local governments and water providers established by state law. It recognizes the limited statutory role of state agencies in decisions regarding the allocation and reallocation of water to various beneficial uses, and the overlay of federal regulatory and permitting processes that pervade water resources management decisions in Colorado. Thus, the plan advocates for cooperation among parties so that no one governmental agency, water provider, or private party is compelled to go it alone and make unilateral decisions.

This plan is a framework to guide future decision-making and to address water challenges with a collaborative, balanced, and solutions-oriented approach. The State recognizes that Coloradans have accomplished innovative and creative work—and acknowledges that there is still much work to do.

Although moving beyond the status quo can be both difficult and complex, it is our responsibility as Coloradans to come together to find compromises and opportunities to ensure that our state remains a vibrant place to live, work, and play for future generations.

The Goal

Colorado is composed of vibrant and sustainable cities, viable and productive agriculture, a robust recreation and tourism industry, and a thriving natural environment. The goals of the Colorado Water Plan are to meet the water supply gap, defend Colorado's compact entitlements, improve regulatory processes, and explore financial incentives—all while honoring Colorado's water values and ensuring that the state's most valuable resource is protected and available for generations to come.

Chapters 2 through 5 focus on the foundational elements that guide Colorado's water management. These include descriptions of Colorado's legal structure and critical facts about supply and demand.

Chapters 6 through 11 establish action steps to help Colorado respond to future challenges. These sections show how Colorado can advance conservation, reuse, alternative agricultural transfers, and multipurpose and collaborative projects while protecting the health of rivers, streams, and watersheds. Building on successful agreements between eastern and western slopes, Chapter 8 charts a collaborative path forward for discussion regarding transmountain water from the western slope. Chapter 9 addresses increased funding opportunities, more efficient and effective permitting, and enhanced education for citizens. Chapter 10 pulls together the measurable objectives and critical actions found in Chapters 6 through 9. Because the various factors affecting forecasts, hydrology, the economy, and the fields of science and technology will continue to be dynamic, Chapter 11 suggests ways to update the plan moving forward.

A LOOK AT HISTORY

Mural related to water, located in Colorado's State Capitol building.

[1] "About the CWCB," Colorado Water Conservation Board, accessed October 17, 2014. http://cwcb.state.co.us/about-us/about-the-cwcb/Pages/main.aspx.

[2] Governor John Hickenlooper, "Executive Order D 2013-05, Directing the Colorado Water Conservation Board to Commence Work on the Colorado Water Plan," May 14, 2013. https://www.colorado.gov/pacific/governor/atom/18351.

[3] BBC Research & Consulting, *Public Opinions, Attitudes and Awareness Regarding Water in Colorado* (Denver, CO, 2013), Section II, 14. http://www.bbcresearch.com/images/Final_Report_072213_web.pdf.

[4] Colorado Water Conservation Board, *Statewide Water Supply Initiative 2010* (Denver, 2011). http://cwcb.state.co.us/water-management/water-supply-planning/pages/swsi2010.aspx.

[5] Colorado Revised Statutes §§ 37-75-104, 37-75-105.

[6] Colorado Water Conservation Board, *Statewide Water Supply Initiative 2010,* 7-2.

[7] "Executive Order D2013-005."

[8] "Living in Colorado," Colorado Office of Economic Development and International Trade, accessed July 26, 2015, http://www.advancecolorado.com/living-colorado.

[9] Colorado Water Conservation Board, *Statewide Water Supply Initiative 2010.*

[10] "Despite Fall Floods, Drought Persists in Southeastern Colorado", National Oceanic and Atmospheric Administration (NOAA), February 18, 2014. https://www.climate.gov/news-features/event-tracker/despite-fall-floods-drought-persists-southeastern-colorado.

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[12] Colorado Water Conservation Board, *Alternative Agricultural Water Transfer Methods Grant Program Summary and Status Update* (Denver: CWCB, 2012). http://cwcb.state.co.us/loansgrants/alternative-agricultural-water-transfer-methods-grants/Pages/main.aspx.

[13] Colorado Water Conservation Board, *Nonconsumptive Needs Assessment Focus Mapping* (Denver: CWCB, 2010). http://cwcbweblink.state.co.us/weblink/0/doc/143889/Electronic.aspx?searchid=a05c7436-830c-490a-a93b-a24fe22bf46e.

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[15] "Water," Denver Metro Chamber of Commerce, last accessed July 26, 2015, http://www.denverchamber.org/policy_committees/water.aspx.