Interbasin Projects and Agreements

People often refer to Colorado as "the headwaters state" because it is the only state in which every major river system starts within the state and exits to downstream states. Colorado stakeholders created intrastate agreements to help align key parties' interests and understandings; as a result, Colorado has a united voice when dealing with interstate and federal negotiations and litigation about water exiting the state. This chapter describes some recent examples of intrastate agreements, including the basin roundtables and the IBCC process. This chapter also examines the next steps and a path forward for these critical agreements.

Two men surveying the view after climbing to the top of Colorado's Continental Divide. Photo taken between 1900 and 1923. Courtesy of the Denver Public Library.

GOAL

Colorado's Water Plan promotes statewide cooperation for water supply planning with the following long-term goals:

A. Protect Colorado's ability to fully develop compact entitlements, and continue to support agreements that strengthen Colorado's position in interstate negotiations, while ensuring the long-term viability of Colorado's interstate compacts and relationships. Colorado will focus planning efforts on maintaining healthy systems and avoiding a Colorado River Compact deficit, rather than focusing on its response to compact curtailment.

B. Encourage multi-partner, multipurpose, cooperative projects through financial incentives and technical support.

C. Use the conceptual framework as an integrated package of concepts to:

- Encourage environmental resiliency;
- Set high conservation standards;
- Develop stakeholder support for interstate cooperative solutions; and
- Establish conditions for a new multi-purpose and cooperative transmountain diversion (TMD) project if proposed in the future.

Existing Stakeholder Agreements and Projects

Colorado has many intrastate agreements among diverse and disparate stakeholders. These agreements benefit the individual stakeholders, but also equip the State to effectively protect its interests in interstate matters. The following are recent examples of intrastate agreements that model a collaborative process for future agreements.

Arkansas River Voluntary Flow Agreement

A voluntary flow management program is a unique arrangement between state and federal agencies, nonprofits, water management organizations, and commercial rafting organizations. Because these agreements are voluntary, the parties are under minimal obligation to participate, but they remain involved because the agreement is successful year after year. The Upper Arkansas River voluntary program, which the water users established in 1990, is a partnership among Colorado Parks and Wildlife, Southeastern Colorado Water Conservancy District, Pueblo Board of Water Works, Trout Unlimited, the Arkansas River Outfitters Association, and the BOR.

The Arkansas River voluntary flow agreement helps meet the environmental and recreational needs of the Upper Arkansas Basin by providing increased recreational flows on the river and beneficial flows for wildlife. From July 1 to August 15, the BOR's Fryingpan-Arkansas Project facilities provide a flow of at least 700 cubic feet per second at the Wellsville gage, greatly benefiting recreation in the Arkansas River. In addition, during the spring and fall months, the facilities provide optimal conditions for a healthy brown trout fishery. These efforts bolster the recreational economy and attract tourists from all over the world.

Colorado River Cooperative Agreement

In fall 2013, 18 parties that are reliant on water from the Colorado River completed the Colorado River Cooperative Agreement (CRCA). The CRCA represents the culmination of years' worth of negotiation between Denver Water and several western slope entities. The goal of the CRCA is to protect Colorado River watersheds while allowing Denver Water to develop future supplies. More than 40 stakeholders, including water providers, county commissioners, local municipalities, ski resorts, and environmental groups, participated in the process alongside the 18 signatories.

On a river system as complicated as the Colorado, the CRCA represents a new way of looking at water management by considering the interests of as many parties as possible, while encouraging collaboration and innovation. This type of process helps the counties and municipalities more effectively manage environmental and recreational flows. A few examples of cooperative operations under the CRCA are the following Denver Water and western slope facilities:

Dillon Reservoir, the Moffat Collection System, and the Shoshone power plant. Many basin roundtables have demonstrated concerns about local control and multipurpose collaboration, and the CRCA illustrates an effective way to address such concerns.

Colorado River System Conservation Pilot Program

Facing declining water levels in Lakes Mead and Powell, four of the largest water providers that depend on Colorado River System supplies have joined with the BOR in exploring potential long-term solutions. Denver Water, the Southern Nevada Water Authority, the Central Arizona Water Conservation District, and the Metropolitan Water District of Southern California have all contributed $2 million to a fund that will be used to finance pilot projects in the basin; in addition, the BOR is contributing $3 million. These pilot projects will pay municipalities, industries, and farmers to reduce their use of Colorado River System water, thereby potentially increasing levels in the basin's two largest reservoirs.

The Conservation Pilot Program intends to test and demonstrate the concept of "demand management" in both the Upper Basin and the Lower Basin. These cooperative projects may use such methods as temporary fallowing of agricultural endeavors, upgrading to more efficient irrigation practices, reusing self supplied industrial water, recycling municipal supplies to lessen consumptive use, and other possible methods geared to leave more water in the Colorado River.

The Colorado River Cooperative Agreement involved signatories and interested parties from both sides of the Continental Divide. This goal of this historic agreement is to benefit watersheds in the Colorado River basin while allowing Denver Water to develop future water supplies.

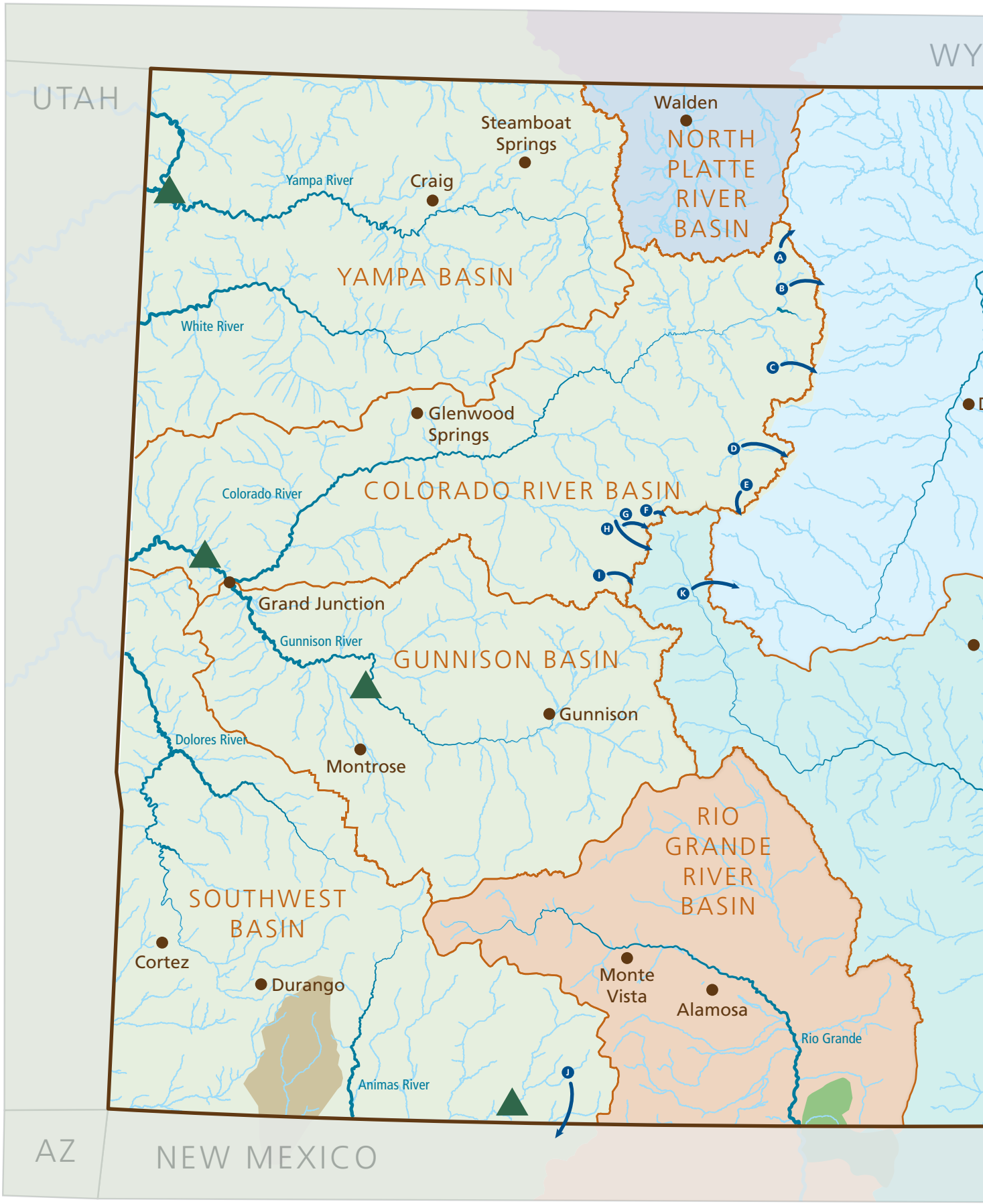
The program supports concepts the Upper Basin states are exploring under the current drought contingency planning effort, which Chapter 2.2 of this plan describes. The drought contingency planning effort in the Upper Division states (Colorado, Wyoming, Utah, and New Mexico) names demand management as a key strategy for keeping the Lake Powell reservoir level above critically low levels. While the conservation program is not specifically tied to the drought contingency planning effort, it may provide critically important information related to demand management concepts the drought contingency planning effort is exploring.

The program will provide funding for the pilot projects in 2015 and 2016. It considers several factors when choosing a pilot project, including geographic diversity, the implementation schedule, ease of administration, environmental benefits, and, for Upper Basin projects, the potential to interface with water users between the project and Lake Powell. As the river master, the BOR will handle program projects and management in the Lower Basin. In the Upper Basin, the Upper Division states, with assistance from the Upper Colorado River Commission, will oversee projects. In addition, a state's commissioner for the Upper Colorado River Commission may veto any project within an Upper Division state.

Elkhead Reservoir

The 2006 enlargement of Elkhead Reservoir is another example demonstrating the collaboration of multiple interests on a project. The City of Craig originally owned the Elkhead Reservoir; the City constructed it to provide energy to the Craig Station Power Plant and to support recreational sport fishing and boating.

Multiple stakeholders gathered together to plan an extensive $31-million, multipurpose expansion project that would enhance endangered fish and water flow management. As part of the project, the City of Craig, the Colorado River Water Conservation District (CRWCD), and Colorado Parks and Wildlife formed a joint management of the reservoir. A combination of state funds and stakeholder cost-sharing funded the project. The Upper Colorado River Recovery Program contributed $13.6 million; the State of Colorado Species Conservation Trust Fund contributed $6.5 million; and the CWCB construction loan program and the CRWCD funded the remainder. All parties had an interest in the project because it has multiple purposes.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Montrose
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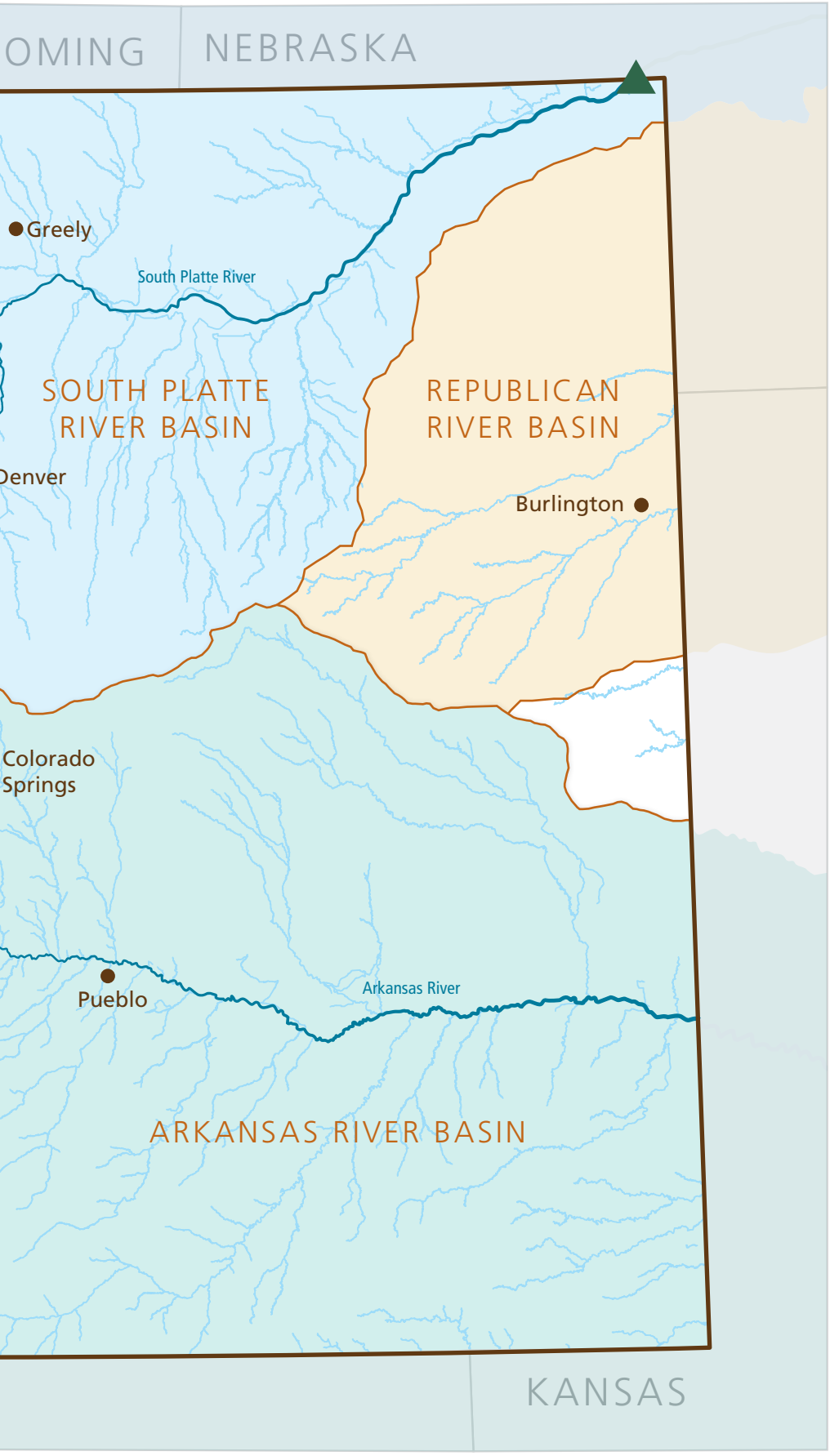

Major Interstate and Intrastate Agreements and Diversions

Interstate Compacts

- South Platte River Compact (1923)
- Republican River Compact (1942)
- Arkansas Compact (1948)
- Rio Grande Compact (1938)
- Costilla Creek Compact (1944, Revised 1963)
- La Plata River Compact (1922) & Animas–La Plata Project Compact (1948)
- Colorado River Compact (1922)
- North Platte (1945) & Laramie River (1957) U.S. Supreme Court Equitable Apportionments

Major Trans-Basin Diversions

- **A:** Grand River Ditch *18,000 AFY*
- **B:** Adams Tunnel *226,000 AFY*
- **C:** Moffat Tunnel *55,000 AFY*
- **D:** Roberts Tunnel *62,000 AFY*
- **E:** Blue Mountain Project *9,000 AFY*
- **F:** Homestake Tunnel *25,000 AFY*
- **G:** Busk Ivanhoe Tunnel *5,100 AFY*
- **H:** Boustead Tunnel *56,000 AFY*
- **I:** Twin Lakes Tunnel *41,000 AFY*
- **J:** San Juan-Chama Project *83,000 AFY*
- **K:** Aurora Homestake Pipeline *16,000 AFY*

Endangered Species Flow Programs

Basin Boundaries

The multipurpose project allocated 5,000 acre-feet of storage for endangered fish management, which provided the Yampa Basin with water to enhance environmental flows. The stakeholders worked together to address the potential conflicts between sport fishing and the protection of endangered fish species; they resolved the issue by installing a fish screen. The CRWCD and the CWCB collaborated on an adjudicated water right in a critical habitat on the Yampa for "in-river fish habitat and river flow maintenance and enhancement uses, and uses in furtherance of the Recovery Program." In addition, the project updated existing facilities to meet new uses and needs.

Windy Gap Firming Project

The Windy Gap Firming Project is a collaboration among 13 northeastern Colorado providers to improve the reliability of water supplies from the Windy Gap Project. The original project began delivering water in 1985, and today the Northern Water's Municipal Subdistrict operates it. The firming project proposes to build a new reservoir called Chimney Hollow on the eastern slope. Chimney Hollow will provide dedicated storage to supply a reliable 30,000 acre-feet of water each year. This water will be supplied via the Colorado-Big Thompson Project, so the Bureau of Reclamation must approve a contract allowing use of federal facilities.

The firming project will cause environmental effects, which the 13 project participants are committed to addressing. On behalf of project participants, the subdistrict spent several years negotiating measures to mitigate environmental effects. The subdistrict worked with state wildlife biologists to develop the fish and wildlife mitigation plan, which operates to mitigate higher stream temperatures, increase flushing flows to clean sediment in the stream, and provide nutrient removal to offset water-quality effects on Grand Lake and the Colorado River. Federal reviewers incorporated the plan into the Final Environmental Impact Statement.

Project participants agreed to the implementation of voluntary enhancement measures to address concerns with the current condition of aquatic life in the Colorado River. The enhancements include a State-authorized plan to provide $4 million to fund future stream-restoration and habitat-related projects on the Colorado River, and $250,000 to study a stream bypass around Windy Gap Reservoir. As part of the 1041 permit Grand County approved, the subdistrict has entered into several agreements with local governments and environmental nonprofits to provide ecological enhancements. The Windy Gap Bypass Funding Agreement provides $2 million to construct a bypass around the reservoir, which the State matched with $2 million in funding. An intergovernmental agreement among the subdistrict, Grand County, CRWCD, Middle Park Water Conservancy District, and Northwest Colorado Council of Governments provides a reliable water supply to Middle Park. This supply will meet Middle Park's future water needs and provide additional water supplies that Grand County may use for environmental purposes.

The collaboration between eastern slope and western slope entities and state agencies will improve the conditions for aquatic life on the Colorado River, and also help the Windy Gap Firming Project progress toward meeting water supply needs on the eastern slope.

Water, Infrastructure, and Supply Efficiency Partnership

The Water, Infrastructure, and Supply Efficiency (WISE) Partnership serves as an example of the use of infrastructure to meet increasing water demands. The project brings together water providers in the Denver metropolitan area to meet challenges jointly, rather than individually. The WISE Partnership explores how water providers can use the existing provider infrastructure to the benefit of all cooperating partners.

In response to the drought of 2002, Aurora Water began construction on the Prairie Waters Project, an innovative supply and filtration system. The Prairie Waters Project stabilized Aurora's water supply and created a large system of treatment and water-transport infrastructure. Aurora now partners with Denver Water and the members of the South Metro Water Supply Authority on a project that couples the Prairie Waters infrastructure capacity with Denver and Aurora's unused supply and reusable flows. The partnership steadies water supply in times of drought for these providers, and administers the sale of water to South Metro as a new and sustainable supply.

The WISE Partnership creates flexibility in the face of hydrologic uncertainty and establishes triggers to modify yields based on available flows. In addition, South Metro Water Supply Authority members use back-up water supplies when WISE water is not available.

State Funding for Collaborative Projects

Funding for opportunities will become more competitive as Colorado moves from the planning phase to the project implementation phase. The basin roundtables state in the BIPs that the projects with multipurpose functions should be prioritized.

When examining appropriate projects to fund, the State looks for multiple stakeholder involvement and multiple project purposes. A few examples of State-funded projects are the Chatfield Reallocation project, the Wild and Scenic Alternatives processes, the Animas-La Plata Project, and a collaborative process to assess the best approaches to secure water for the Upper Colorado River Basin Recovery Implementation Program. In addition to providing funding, the State served as a partner in the planning, permitting, and development of operational procedures for the Chatfield Reallocation and Animas La-Plata projects.

These projects and processes represent the type of collaboration necessary for future water supply planning in Colorado. Local involvement, stakeholder consultation, innovative practices, and multiple uses will be integral to future successful projects and processes. The BIP and Colorado's Water Plan processes have engaged communities, stakeholders, and basin roundtables in an unprecedented way. Continuing this engagement will be important for next steps regarding project implementation.

Conceptual Intrastate Agreements and Points of Consensus

The drought in 2002 illustrated that Colorado had not brought together the necessary stakeholders and technical information to adequately plan for Colorado's future. In response, Colorado initiated three important efforts: the SWSI, the Colorado Water for the 21st Century Act, and the Water Supply Reserve Account Grant Program.

The SWSI (SB03-110) established the technical backbone for statewide planning.

The Colorado Water for the 21st Century Act (HB05-1177) created the basin roundtables and the IBCC. The basin roundtables consist of nine stakeholder groups, including those from the Metro Area, Arkansas, Colorado, Gunnison, North Platte, Rio Grande, South Platte, Southwest, and Yampa/White/Green River basins. Members include representatives for the environment, recreation, domestic water

MICHELLE PIERCE

GUNNISON RIVER BASIN

In her dual role as Lake City's Town Manager and chair of the Gunnison Basin Roundtable, Michelle cultivated the spirit of collaboration and cross-basin dialogue. She is now enjoying life as a full-time student after recently retiring. Michelle is pictured in front of Lake San Cristobal Dam.

Given the ever-increasing and diverse demands that are being placed on our water supplies statewide, I believe it's imperative that the Colorado Water Plan take a realistic and holistic approach to establishing methods to secure Colorado's water future. Shortages in supplies must be acknowledged, and appropriate conservation measures must be taken, in order to sensibly allocate water for future needs and provide true security to all users.

My family and I moved to Lake City thirty years ago. I retired as Lake City's Town Manager in 2012 and am currently enrolled as a full-time

CONTINUED AT END OF CHAPTER.

PROFILE

Blue Mesa Reservoir in the Gunnison River Basin is one of the reservoirs built under the Colorado River Storage Project Act to help manage flows in the Upper Colorado River system. Photo: M. Nager.

suppliers, agriculture, and industry. Representatives from each county, municipalities within each county, and conservancy and conservation districts join these members. A basin roundtable may also vote in additional members, who may serve as voting or nonvoting members. The major charge of the basin roundtables is to determine their municipal, industrial, agricultural, environmental, and recreational needs, and identify projects and methods to meet those needs.

The IBCC comprises two representatives from each basin roundtable, six gubernatorial appointees, two legislative appointees, and the director of compact negotiations. The IBCC's main charge is to work with the basin roundtables to develop and ratify cross-basin agreements. A detailed list of the IBCC membership is available here.[1]

The basin roundtable and IBCC processes have evolved over the years, and the roundtable and the IBCC produced several work products to reach consensus across the state. These include:

- Statewide Basin Roundtable Summits and the roadmap documents.
- IBCC 2010 Letter to then-outgoing Governor Ritter and then Governor-elect Hickenlooper.
- IBCC Draft No-and-Low-Regrets Action Plan.
- Colorado's Conceptual Framework.

Statewide Basin Roundtable Summits

The three Statewide Basin Roundtable Summits have helped focus Colorado and the hundreds of stakeholders involved in water planning throughout the state. The summits provided an opportunity to learn across basins, ensure that statewide planning is heading in the right direction, and set the course forward.

IBCC 2010 Letter

In December 2010, the IBCC submitted a letter to the governor. This letter synthesized the IBCC's ideas and laid the foundation for establishing the No-and-Low-Regrets Action Plan and conceptual framework.

Much of this work remains relevant today and has helped guide the development of Colorado's Water Plan. The IBCC wrote, "The enormous challenge of meeting future water needs facing water users and the State requires the collective input of all stakeholders and a collaborative decision-making process that reaches common ground to plan a sustainable water future that meets our numerous and diverse needs… Our system of water allocation should be guided and supported by a comprehensive framework that will marshal ever-scarcer government resources in a manner that supports economic growth; protects our environment; provides for municipal, agricultural, and industrial needs; and supports rural, recreation, and ecotourism-based economies."

The general consensus was that the status-quo scenario is not a desirable future for Colorado.

The IBCC highlighted that the current path was not sustainable for Colorado. The IBCC wrote, "Status quo will likely lead to large transfers of water out of agriculture resulting in significant loss of agricultural lands, more dried-up streams threatening ecosystems and recreation-based economies, water-inefficient land use decisions, and continued paralysis on water supply projects. We have discussed status quo as the default position--the results that will likely occur if we, the water community, allow current trends to continue unchanged. Inaction is a decision itself, a decision with significant consequences. The general consensus was the status quo scenario is not a desirable future for Colorado."

The IBCC also described the path forward regarding water supply options: "It is clear that no one strategy can meet Colorado's growing water needs without harming values important to all Coloradans. Therefore, a mix of solutions is needed. At the IBCC's August 2010 meeting, it agreed that a future mix of water supply solutions should include all four sources to meet the water supply gap in Colorado: conservation, IPPs, agricultural transfers, and new supply development, while also protecting Colorado's significant water-dependent ecological and recreational resources."

No-and-Low-Regrets Action Plan

Based on dialogue from the November 2012, March 2013, and June 2013 IBCC meetings, as well as numerous subcommittee meetings, the IBCC developed a draft No-and-Low-Regrets Action Plan. The draft document reflects 100 percent consensus by the IBCC members, and provides a menu of options the basin roundtables should consider for the BIPs; it also recommends that the CWCB consider the options as a component of Colorado's Water Plan and the SWSI.

Scenario planning is a critical part of the No-and-Low-Regrets Action Plan. Full implementation will occur within the next 10 to 15 years. Without full implementation of these foundational actions, the gap between water demand and water supply will be much greater than the State originally projected. This means that even under a weak-economy scenario, the State will need new water supplies. Under the scenarios in which demands for water are greater and supplies are lower, the State will need additional new supplies and agricultural transfers beyond what the basin roundtables envisioned.

The IBCC identified the following no-and-low-regrets goals:

- Minimize the transfer of statewide acres (per the basin goals) and implement agricultural sharing projects.
- Plan and preserve options for existing and new supply.
- Establish low- to medium-conservation strategies.
- Implement nonconsumptive projects.
- Have a high success rate for identified projects and processes.
- Implement storage and other infrastructure.
- Implement reuse strategies.

Colorado's Water Plan incorporates this Action Plan. It is also available here.[2]

Colorado's Conceptual Framework

A long-standing controversial issue in Colorado is the development of water supply from the Colorado River System for use on the eastern slope. It is controversial because of supply gaps, environmental health, compact compliance, and other issues. Table 8-1 demonstrates the variability in opinion on this issue, as articulated by the basin roundtables in the BIPs. Generally, eastern slope roundtables identify the need for a balanced program to preserve the option of future development of Colorado River System water. Western slope roundtables express concern regarding the impact on future development on the western slope, as well as the potential for overdevelopment related to both a Colorado River Compact deficit and critical levels for system reservoir storage, such as the minimum storage level necessary to reliably produce hydroelectric power at Glen Canyon Dam ("minimum power pool").

The Colorado and South Platte/Metro BIPs are the BIPs with the greatest divergence. In its BIP, the Colorado Basin Roundtable points out the variability in hydrology, stating that TMDs "should be the last 'tool' considered as a water supply solution, once the many and complex questions are addressed over hydrology."[3] In the South Platte/Metro BIP, the roundtable advocates to "simultaneously advance the consideration and preservation of new Colorado River supply options."[4] Both viewpoints recognize the constraints of water availability and Colorado water law, but differ in their beliefs about whether such a project fits into water supply planning.

Despite differences of opinion, the IBCC, basin roundtables, and CWCB reached consensus to support the conceptual framework, which seeks a path forward that considers the option of developing a new TMD and addresses the concerns of roundtables, stakeholders, and environmental groups. The conceptual framework presents seven principles to guide future negotiations between proponents of a new TMD, if it were to be built, and the communities it would affect. The principles identify areas of statewide concern, and state the issues and realities proponents of a new TMD should expect to address. Below is a brief summary of the path that led to this consensus:

1. **Initial discussions:** In 2013, the No-and-Low-Regrets Action Plan sparked discussion about preserving the option for a new TMD. The IBCC focused its discussion on a conceptual framework for future detailed negotiations about a potential new TMD.
2. **First draft:** In June 2014, the IBCC reached consensus that the draft conceptual framework was ready for public feedback, and submitted it to the CWCB for inclusion in the initial draft of Colorado's Water Plan.

Board members of the CWCB emphasize the geographical diversity Colorado's Water Plan seeks to accommodate, while Director Eklund works to balance these needs. Photo: J. Johnson.

3. **First round of input:** Following the publication of the first draft of Colorado's Water Plan in December 2014, basin roundtables discussed the conceptual framework. Roundtable members expressed concerns about terminology that addressed "firm yield" from a TMD, the triggers under which a new TMD would be managed, "environmental resiliency," an "insurance policy" in Principle 4, and language regarding conservation and the relationship to the conservation "stretch goal."
4. **IBCC subcommittee:** The IBCC tasked a subcommittee to address these concerns and make the document more concise. The subcommittee included representatives from every western slope basin, both eastern slope basins, and the metro area, and included IBCC members representing agricultural interests, municipal water providers, conservancy districts, and environmental interests. CWCB members also participated in the subcommittee's work. Informed by the discussion to this point, the subcommittee sought to clarify the conceptual framework based on roundtable and stakeholder feedback.
5. **Basin roundtable support:** Following extensive discussion, every basin roundtable supported the final draft of the conceptual framework. The Arkansas, Colorado, Gunnison, Metro, South Platte, and Yampa/White/Green roundtables passed motions supporting inclusion of the framework within Colorado's Water Plan, recognizing the evolving nature of the conversations initiated by the framework. The North Platte, Rio Grande, and Southwest roundtables expressed support for inclusion of the framework in Colorado's Water Plan through consensus or communication with the IBCC and CWCB staff.
6. **IBCC consensus:** At the August 2015 meeting, the IBCC made final modifications and voted unanimously to support the conceptual framework and forward the final draft on to the CWCB for inclusion in Colorado's Water Plan.
7. **CWCB adoption:** At its September 2015 meeting the CWCB adopted the conceptual framework for inclusion in the final draft of Colorado's Water Plan.

The conceptual framework reads as follows:

In preparation for *Colorado's Water Plan,* the basin roundtables drafted Basin Implementation Plans (BIPs). Front Range roundtables declared a need for a balanced program to preserve options for future development of Colorado River System water, while western slope roundtables expressed great concern regarding additional development of Colorado System water involving a new transmountain diversion project (TMD). This document represents an IBCC consensus to address both Front Range and western slope concerns about a new TMD.

The *IBCC Conceptual Framework* (Framework) sets out seven principles to guide future negotiations between proponent(s) of a new TMD and those communities it may affect, were it to be built. The Framework reflects areas of statewide concern. In generating it, the IBCC's diverse stakeholders thoroughly explored the difficult issues that would surround a new TMD. As such, this Framework may help accelerate future negotiations. However, the Framework cannot take the place of specific negotiations and agreements.

The intent of the Conceptual Framework is to represent the evolving concepts that need to be addressed in the context of a new TMD, as well as the progress made to date in addressing those concepts. The Conceptual Framework refers to several topics that are not exclusively linked to a new TMD, but are related to Colorado's water future. These include conservation, storage, agricultural transfers, alternative transfer methods, environmental resiliency, a collaborative program to address Colorado River system shortages, already identified projects and processes (IPPs), additional Western Slope uses, and other topics. The Conceptual Framework, like the rest of Colorado's Water Plan, is a living document and is an integrated component of the plan. Many of these topics are further discussed in more detail in other sections of Colorado's Water Plan.

The IBCC acknowledges that overdevelopment of Colorado River System water is a serious risk that could result in a Colorado River Compact deficit[a]. All of Colorado's water planning efforts must recognize that risk. The Framework provides a way to think about how entities in Colorado might develop a future increment of Colorado River System water. The Framework states the realities and issues proponents for a new TMD should expect to address.

Principle 1: Eastern slope water providers are not looking for firm yield from a new[b] TMD and the project proponent would accept hydrologic risk for that project.

Water providers define firm yield differently, but the concept usually represents an estimate of the amount of water a system makes available during a representative hydrologic cycle. A proponent of a new TMD would not seek a firm yield from the Colorado River System, but instead would develop a project that could provide firm yield if operated in conjunction with eastern slope sources of supply, as Principle 2 describes.

Accepting hydrologic risk means that a new TMD would be administered under Colorado's priority system, diverting water only when it is physically and legally available in priority in the basin of origin, and in accordance with the triggers Principle 3 describes. Thus, a new TMD would avoid unacceptably increasing either the risk of a Compact deficit or the burden on existing uses in a demand management program, such as Principle 4 describes.

Principle 2: A new TMD would be used conjunctively with eastern slope supplies, such as interruptible supply agreements, Denver Basin Aquifer resources, carry-over storage, terminal storage, drought restriction savings, and other non-western slope water sources.

It is important for eastern slope parties to demonstrate to the western slope that structures, agreements, and frameworks are or will be in place for eastern slope backup water supplies during times when a new TMD would not be able to divert Colorado River System water. Interruptible supply agreements, Denver Basin Aquifer resources, carry-over and terminal storage, and drought-restriction savings are options for backup water supplies that eastern slope entities would use during years when a new TMD would not be able to divert Colorado River System water. Any entity interested in participating in a new TMD would prepare and share a detailed plan for firming the yield of a new TMD in dry years using some or all of these

[a] A Colorado River Compact deficit occurs when flows at Lee Ferry fall below the obligation of the Upper Division States contained in Article III of the Colorado River Compact.

[b] A "new" TMD means a transmountain diversion project that is not an identified project or process (IPP) in SWSI 2010.

options. The firming plans should include steps to replace water not available from the new TMD, as well as sufficient supplies to meet the entity's demands, including those that could be met with reuse of a new TMD's water. Each entity would tailor its firming plan to its system's unique strengths and constraints. The tools listed above are options, not requirements.

Principle 3: In order to manage when a new TMD would be able to divert, triggers are needed.

Triggers are operating parameters that determine when and how much water a potential new TMD could divert, based upon predetermined conditions within the Colorado River System. Such parameters include, but are not limited to, specific storage-elevation levels in one or more Colorado River System reservoirs, projected inflows at key Colorado River System locations, actual reservoir inflows over specific defined periods, snowpack levels, predictive models—or combinations of these—which would trigger certain actions and prevent others.

Triggers are needed to ensure that diversions by a new TMD do not unacceptably increase the risk to the yield of existing uses of a Compact deficit, or increase the amount of water existing users would have to provide through a demand-management program in order to maintain storage levels in Lake Powell.

Triggers would need to be adaptable as conditions within the Colorado River System change over time, and be legally enforceable by appropriate authorities. Triggers may also need to be modified to reflect the outcome of continuing negotiations among Colorado, other Colorado River Basin States, the federal government, and Mexico regarding the continuation of the 2007 Interim Shortage Guidelines, 1944 Mexican Water Treaty and related Minutes, and other Colorado River System issues. Colorado would modify the triggers over time, as these agreements will provide the ultimate parameters within which a new TMD would need to operate.

Principle 4: A collaborative program that protects against involuntary curtailment is needed for existing uses and some reasonable increment of future development in the Colorado River System, but it will not cover a new TMD.

A collaborative program that protects existing uses and an increment of future development is a necessary element of Colorado's water planning, regardless of whether a new TMD is developed. The Framework includes this principle to make clear that a collaborative program would not protect a new TMD.

The collaborative program should provide a programmatic approach to managing Upper Division consumptive uses, thus avoiding a Compact deficit and ensuring that system reservoir-storage remains above critical levels, such as the minimum storage level necessary to reliably produce hydroelectric power at Glen Canyon Dam (minimum power pool). A goal of the collaborative program is that protection of Colorado River system water users, projects, and flows would be voluntary and compensated, like a water bank. Such protection would NOT cover uses associated with a new TMD.

A second goal of the collaborative program is protection of the yield of the water supply systems in place in the Colorado River Basin from involuntary curtailment. To achieve this goal, the program would need to expand to accommodate future western slope growth and growth of existing water supply systems, the pace of which is not now known. Protecting additional consumptive uses will increase the program's scope and challenges. Some basins, such as the less-developed Southwest and Yampa/White/Green Basins, anticipate the need for future development and will seek terms to accommodate it in the collaborative program. Regardless of "when" a use develops, the program would strive to protect uses at the time of shortage, with the exception of a new TMD. By adapting to accommodate increased uses at any given time, the program should not lead to a rush to develop water rights. Section 9.1 of Colorado's Water Plan provides additional discussion of the collaborative program.

The collaborative program will develop in concert with intra- and interstate water policies. The IBCC and roundtables can provide an important forum for sharing the work of ongoing interstate negotiations, scoping technical analyses, and identifying issues of concern at the stakeholder level, as well as providing input to the CWCB as it manages and conducts the technical, legal, economic, and other studies necessary for implementation.

Principle 5: Future western slope needs should be accommodated as part of a new TMD project.

If a new TMD were to be built, this Framework assumes that proponents and affected parties would agree to its development as part of a package of cooperative projects and processes that benefit both the eastern and western slopes. The focus should be on pairing the potential new TMD described above with one or more of the following:

- Compensatory projects and methods (protecting and providing for both consumptive and nonconsumptive needs).
- A socio-economic compensation fund (as described in the 2010 IBCC "Letter to the Governors").
- Other requirements stated in the Conservancy District Act (C.R.S. § 37-45-118).

The parties would develop a new TMD and compensatory western slope project(s) and methods in concert to ensure sufficient funding and hydrology for the whole package. Such an arrangement would provide the necessary mutual assurance that a new TMD would move forward only as a package that also accommodates both the eastern and western slopes.

The increment of additional development Principle 4 discusses will meet some portion of future western slope needs. The purpose of Principle 5 is to indicate that a new TMD may be part of a package of other consumptive or nonconsumptive projects and methods that may need both eastern slope and western slope financial or infrastructural support. Discussion of future western slope needs in relation to a new TMD does not imply that western slope entities would not move forward with additional projects and methods in the absence of a new TMD.

This principle does not imply that the new TMD project proponent would pay all costs associated with providing the basin-of-origin benefits to the basin of origin, beyond those required to mitigate a new TMD's impacts identified in regulatory processes. Providing these benefits may require building coalitions and finding additional funding.

Principle 6: Colorado will continue its commitment to improve conservation and reuse.

Part A. Municipal & Industrial Conservation and Reuse

M&I conservation: Conservation actions defined in the No and Low Regrets Action Plan should be substantively completed prior to implementation of a new TMD project.

All M&I water providers that are covered entities should do integrated water resource planning that strives to meet the "conservation stretch goal" described in section 6.3.1 of Colorado's Water Plan. The stretch goal recognizes the need for flexibility by the local water provider to do what is technically, economically, and legally practical for their system as not every conservation practice is appropriate for every community.

Water providers participating in a new TMD project should have active conservation plans and activities approved by the CWCB in place prior to implementation of the project, and high conservation levels, as defined in SWSI, should be reached for new growth relying on water that would be yielded from a new TMD. The active water conservation plans of providers participating in a new TMD should demonstrate a commitment to work toward achieving the conservation stretch goal. These plans should have measurable outcomes. Opportunities for conservation may vary from one community to another.

Reuse: Reuse actions defined in the No and Low Regrets Action Plan should also be substantively completed prior to the implementation of a new TMD project, given technical and regulatory feasibility at the time of proposed implementation. Such actions include improved tracking and quantification, development of a statewide reuse goal, development of new incentives for reuse, and education and outreach efforts.

Additionally, water providers that are participating in a new TMD project and that utilize other fully consumable water supplies should have a reuse program to recycle as much water as is technically and economically practical. Existing regulations and policies may limit such reuse, and the ability to make these changes may be beyond the control of the project proponent(s). The State should make every effort to allow for the reuse of these fully consumable water supplies in an appropriate and environmentally safe manner. Legislative and regulatory reform may be desirable to achieve these objectives. If such reform does not occur, key objectives of the water plan may not be realized. Section 6.3.2 of Colorado's Water Plan further discusses reuse.

Water & land use: Land-use practices that help reduce water consumption should be supported and encouraged, focusing as much as possible on incentives. Land use is an important component in water conservation; however, further work is needed to determine strategies and partners that can tackle this issue. In partnership with the Department of Local Affairs, the CWCB will initiate additional discussions on this issue along with municipalities, counties, local planning agencies, and elected officials at all levels. Trainings on this issue are forthcoming. Section 6.3.3 of Colorado's Water Plan further discusses land use.

Part B. Agricultural Conservation

When considering agricultural conservation strategies, it will be important to take a site-specific perspective and to consider the potentially negative consequences of altering the timing and the amount of return flows. While some locations lend themselves well to agricultural conservation practices, others do not, and a clear understanding of the affected systems is necessary.

Current Agricultural Uses: Many of the BIPs identified the explicit interconnections between agricultural and nonconsumptive uses. In addition, several BIPs are looking to decrease agricultural shortages. As part of this work, each basin should seek to reduce consumptive, non-beneficial use by following the guidelines in the Colorado Agricultural Water Alliance (CAWA) 2008 Agricultural Conservation Paper (e.g., reducing soil-moisture loss where practical through drip irrigation or mulching). Lining of high-priority ditches is another important tool in reducing seepage losses in appropriate areas. Phreatophyte control presents one of the largest opportunities for reducing non-beneficial consumptive use and should be pursued aggressively, although balancing this with nonconsumptive needs can be challenging. Additional incentives should be developed to assist basins in implementing, where appropriate, agricultural efficiency and conservation practices, supporting the ecosystem services agriculture can provide, and changing crop types to lower water-use crops.

Future Agricultural Uses: New, irrigated agricultural lands (currently identified in the North Platte, Yampa/White/Green, and Southwest Basins) should be designed to either use best practices with regard to agricultural conservation and efficiency, or be measurably and explicitly multipurpose by meeting identified nonconsumptive needs.

Principle 7: Environmental resiliency and recreational needs must be addressed both before and conjunctively with a new TMD.

Agriculture and Nonconsumptive Partnerships: Agricultural water can add flexibility and reliability to meet future water needs. The Framework encourages agricultural partnerships with environmental, recreational, and municipal groups to help sustain Colorado's diverse economic future and healthy environment. In addition, development of all new water projects should consider important agricultural and nonconsumptive gaps that basin roundtables have identified.

Environmental Resiliency:[c] Colorado's Water Plan, BIPs, and stakeholder groups across the state should identify, secure funding for, and implement projects that help recover imperiled species and enhance ecological resiliency, whether or not a new TMD is built. Doing so may create conditions that make a new TMD possible, but building environmental resiliency is not the sole responsibility of a new TMD proponent, since environmental and recreational gaps exist now. The Framework encourages addressing these existing gaps meaningfully in the near term as well as in any new TMD-affected areas in advance of building a new TMD. Sources of funding will likely include federal, state, foundation, corporate, and private money, but Colorado will likely need to develop additional funding sources. Colorado's Water Plan recommends actions that improve Colorado's environment, which will ultimately help Colorado achieve environmental resiliency.

Environmental and recreational needs in relation to a new TMD: In addition, a new, multipurpose TMD could potentially fill remaining environmental and recreational gaps as part of a package of compensatory projects. As Principle 5 discusses, a new TMD will be part of a package that also includes benefits or mitigation for environmental and recreational values. This principle encourages addressing environmental and recreational needs proactively and voluntarily, and up-front in project design. Proponents should include nonconsumptive partners to make the package of projects associated with the new TMD truly multipurpose. A new TMD proponent should avoid, minimize, or mitigate adverse environmental impacts where possible, and provide opportunities for environmental restoration and enhancement. Project proponents must mitigate impacts that result from a new TMD project, even if those impacts occur outside of Colorado. The financial burden of environmental and recreational enhancements, beyond the mitigation required to address the impacts of the new TMD project, will require funds in addition to those that the TMD proponent provides, and may require building coalitions and additional funding opportunities.

Appendix D[5] includes the complete first draft of the conceptual framework. Once the framework is complete, the points of consensus may serve as the foundation for any new future TMD projects seeking State support, and the framework's considerations will guide and move projects forward in conjunction with State support.

[c] Resilience of a stream or watershed can be measured as an ecosystem's ability to recover function after a disturbance, whether acute or chronic.

The 2015 Statewide Basin Roundtable Summit was held in Westminster. Attendees discussed the action items in Colorado's Water Plan and the interdependent nature of water uses across the state. Photo: J. Bornstein.

ACTIONS

The following next-steps will support the policies, conceptual agreements, and points of consensus in the conceptual framework:

1. At the roundtable and IBCC levels, the CWCB will monitor ongoing discussions that involve the topics associated with the seven principles of the conceptual framework.
2. The CWCB will protect the ability to fully develop Colorado's compact entitlements and continue to support intrastate agreements that strengthen Colorado's position in interstate negotiations. The State of Colorad will support strategies to maximize the us of compact water while actively avoiding a Colorado River Compact deficit. Colorado will focus planning efforts on maintaining healthy systems and avoiding a Colorado River Compact deficit rather than on its response to compact curtailment.
3. The CWCB will help Colorado prepare for a future with more scarce water supplies; in other words, it will hope for the best and plan for the worst. Colorado will work with other states to evaluate options for sustainable water solutions that balance the development of Colorado's compact entitlements with the risk of a compact deficit in the Colorado River System. Colorado's conceptual framework, under Principle 4, and Section 9.1 in Colorado's Water Plan further describe this concept. The CWCB will also support continued outreach to stakeholders regarding interstate cooperative solutions.

TABLE 8-1 COLORADO RIVER DEVELOPMENT - DISCUSSION IN THE BASIN IMPLEMENTATION PLANS

River Basin	Compact Discussion	Transmountain Diversions (TMDs)
Arkansas	"As an importing and exporting basin, the future of the State's Colorado River Compact Entitlement directly affects all water uses in the Arkansas Basin;" "**Policy Statement:** The Arkansas Basin Roundtable supports the full development of Colorado's entitlement under the Colorado River Compact, for use in Colorado."[6]	"In particular, a future without New Supply, as that term is understood in the lexicon of the Statewide Water Supply Initiative 2010, is detrimental to the future of agriculture in the Arkansas Basin."[7]
Colorado	"Recent studies show that continued development from the Colorado River toward full Compact entitlement is simply unsustainable."[8]	"The core principle is that a TMD should be the last not the first tool out of the box to deal with water supply shortages statewide. This principle is equally applicable to any basin, including the Colorado Basin where the focus is on meeting the needs of the basin from resources within the basin.[9]
Gunnison	"The ultimate risk from new development of Colorado River System water is over development of Colorado's entitlement under the Colorado River Compact and Upper Colorado River Basin Compact, resulting in curtailment of water uses in Colorado. However, because Colorado River Storage Project reservoirs have provided drought protection for Upper Basin states, Compact curtailment is not a near term risk. Therefore, in preparing the 2015 Water Plan, new development planning should be focused on avoiding hydroelectric power disruption, a Colorado River Compact deficit, or development in excess of Colorado's allocation under the Upper Colorado River Basin Compact. The Gunnison Basin Roundtable believes that evaluating new development using this standard will leave Colorado well positioned to respond to the ultimate risk of over development."[10]	"1. Future supply of Colorado River water is highly variable and uncertain; therefore any proponent of a new supply project from the Colorado River System must accept the risk of a shortage of supply however the shortage occurs, strictly adhere to the prior appropriation doctrine, and protect existing water uses and communities from adverse impacts resulting from the new supply project. 2. It must be explicitly recognized that a new supply development from any location in the Colorado River System affects the entire West Slope, as well as the Front Range diverters. 3. Any new supply project from the Colorado River System must have specifically identified sponsors and beneficiaries, and meet certain minimum criteria 4. Local solutions must be utilized to meet Colorado's future water needs without a major state water project or related placeholder water right."[11]
North Platte	The BIP did not address Colorado Compact concerns.	The BIP took no position on TMDs.
Rio Grande	The BIP did not address Colorado Compact concerns.	The BIP took no position on TMDs.
South Platte/ Metro	"The Metro and South Platte Roundtables encourage strong consideration and preservation of the ability to use Colorado's entitlement under the Colorado River Compact as we pursue other strategies to meet our water demands. Investigating, preserving, and developing Colorado's entitlement to Colorado River supplies is beneficial to the state's economic, social, political and environmental future. This may involve large state-level water projects, or small level projects, each with comprehensive West Slope water supply and environmental and recreational components. The Roundtables support the Conceptual Framework developed by the IBCC (and as outlined in Colorado's Water Plan) as the means whereby new Colorado River Basin supply options could be investigated and potentially developed."[12] "Additional amounts of Colorado River water supply may be developed within the State's Colorado River Compact entitlement, especially during wet years and wet cycles. Management techniques such as water banks and methods for temporarily reducing water use during dry conditions are available to manage a warmer and/or drier climate. However, artificially capping development due to a fear of a "compact call" merely shifts future risks to agriculture."[13]	"The South Platte and Metro Basin Roundtables are supportive of the on-going IBCC discussions and believe that a wide range of water supply solutions should be carefully considered including continued and expanded water conservation and reuse programs statewide. All "four legs of the stool plus storage" need to be simultaneously considered as the development of Colorado's Water Plan continues." "Ideally, a Colorado River supply project(s) would be multipurpose, with associated recreational and environmental benefits. Colorado River supply would be developed in a manner that does not exacerbate compact risks. East slope storage would come from enlarging existing reservoirs, building off-river storage, and using underground storage to minimize riparian impacts. Colorado River supply and east slope storage would form the base of the M&I supply. East slope Agricultural Transfers and conjunctive use of the Denver Basin Aquifer would be used primarily for droughts and drought recovery. Alternative agricultural transfer methods including land and water conservation easements could be used to help maintain agricultural production and the local economic benefits of agriculture." [14]

TABLE 8-1 CONTINUED COLORADO RIVER DEVELOPMENT - DISCUSSION IN THE BASIN IMPLEMENTATION PLANS

River Basin	Compact Discussion	Transmountain Diversions (TMDs)
Southwest	"The Roundtable is concerned about any new TMD. A new TMD would increase the risk of a Colorado River Compact call, as well as the risk of contingency measures to address serious conditions such as the inability to generate power from Lake Powell or levels of Lake Mead dropping below Las Vegas' intake. An increase in such risks jeopardizes the Southwest Basin's ability to develop water supplies to meet needs in the Southwest Basin and pits additional pressure on the basin's agriculture to meet downstream water needs for compact compliance and/or obligations. Therefore, the Roundtable agrees on eight factors to be addressed prior to considering a new TMD."[15]	"The Southwest Basin intends to continue its involvement in two current cross-basin cooperative efforts. One is the IBCC's effort to develop a conceptual agreement among roundtables regarding how to approach a potential future TMD from the west slope to the east, including the discussion of a possible future use allocation. The Southwest Basin is actively engaged in the West Slope Caucus discussions and supports further refinement of the seven points of framework (IBCC Draft Conceptual Agreement; July 2014). The Roundtable would like the opportunity to review and comment on any future refinements to said Framework. A new TMD must be considered in conjunction with alternative water sources that do not rely on the Colorado River Basin water supplies The Southwest Basin's cooperative effort is through the Southwestern Water Conservation District's participation as a member of the Water Bank Working Group to develop a Compact Water Bank."[16]
Yampa/ White/ Green	"How the Yampa/White/Green Basin fits into meeting Colorado's compact obligations within and beyond the state is a principal concern. The Yampa/White/Green Basin is part of Colorado River Basin, and is caught among the needs of the downstream states, the needs of the urbanized east slope of Colorado, and its own in-basin needs. The Yampa/White/Green Basin Roundtable must consider these competing needs in its water planning effort. In this regard, the Yampa/White/Green Basin Roundtable also recognizes that the overdevelopment of water in the Colorado River and its tributaries poses a serious risk that would impact all users of Colorado River Basin water"…" "The State of Colorado is party to the 1922 Colorado River Compact and the 1948 Upper Colorado River Compact. Currently, the state is discussing methods (e.g. contingency planning, demand management, water banking) to minimize the risk of a "call" under compact administration. The role of the Yampa/White/Green Basin flows in meeting the state's compact obligations is a central issue in the Yampa/White/ Green BRT's planning efforts. In the event of a compact deficit, the State Engineer would have to develop rules by which to curtail Colorado River water users to remedy the condition. How the state administers a curtailment could greatly affect Colorado River water rights users across the state. If administration is based upon a statewide application of the prior appropriation system in the Colorado mainstem and tributary basins, the burden would likely fall disproportionately on the Yampa/White/Green Basin as its water rights are relatively junior to those of other Colorado River basins."[17]	"The Yampa/White/Green Basin Roundtable's position is that a negotiated equitable native flow allocation for all basins tributary to the Colorado River should be the basis for such a rulemaking. The Yampa/White/Green Basin Roundtable recognizes that negotiations for allocations of Colorado River water should include all users including TMDs that have historically diverted from Colorado River tributaries."[18]

A LOOK AT HISTORY

Signing of the Mexican Water Treaty in Washington, D.C. on February 3, 1944.
Secretary of State Cordell Hull, seated at the head of the table, is signing the treaty.
Mexican Foreign Relations Secretary F. Castillo Najera is seated to Secretary Hull's right.

SOURCE: Bureau of Reclamation.

MICHELLE PIERCE, CONTINUED FROM PAGE 8-6.

gave me a basic understanding of the prior appropriation doctrine and a mere glimpse into its complexities. It also opened my eyes to the fact that water is a scarce resource in Colorado and how what water we have serves many purposes.

In the few years leading up to my retirement, I had the complete pleasure of working with many dedicated folks to establish the Lake San Cristobal Water Activity Enterprise for the purpose of constructing and managing an outlet structure at Lake San Cristobal. The water stored behind this outlet structure not only augments the water rights for the Town of Lake City, it will also serve as augmentation water for future diversions in the Lake Fork Valley for many years to come. But, perhaps what I'm most proud of is my service over the past ten years on the Gunnison Basin Roundtable. Helping to create common understandings among extremely diversified interests on both sides of the Divide has been one of the most rewarding and challenging experiences of my life. While the planning processes that we've been immersed in have not solved our future water supply needs, we have successfully established the relationships that will be needed to do so. This is a huge accomplishment that has required tremendous effort by many dedicated people to achieve and one for which we should all be proud.

My hope for water supply for the future is that we can figure out a way to responsibly manage what little supply is left without sacrificing Colorado's agriculture and without sacrificing our environment. Although my term on the Gunnison Basin Roundtable expires in October, I plan to continue my work in water supply issues as a board member of the Upper Gunnison River Water Conservancy District.

[1] Colorado Water Conservation Board, "Interbasin Compact Committee Members," accessed July 2015, http://cwcb.state.co.us/about-us/about-the-ibcc-brts/Pages/InterbasinCompactCommitteeMembers.aspx.

[2] Colorado Water Conservation Board, "No and Low Regrets Action Plan" (Colorado Water Conservation Board Meeting Agenda Item 24, September 24-25, 2013), accessed July 2015, http://cwcbweblink.state.co.us/WebLink/ElectronicFile.aspx?docid=172937&searchid=369b690c-638b-4207-9e92-efa1e6ff0e95&dbid=0.

[3] SGM, *Colorado Basin Implementation Plan* (Glenwood Springs: SGM, 2015), 45. http://coloradobip.sgm-inc.com/.

[4] HDR, WestSage Water Consultants, *South Platte Basin Implementation Plan* (Denver: HDR, West Sage Water Consultants, 2015), 1-21. http://southplattebasin.com/.

[5] Colorado Water Conservation Board, "Interbasin Compact Committee DRAFT Conceptual Agreement" (Colorado Water Conservation Board Meeting Agenda Item 13, July 16, 2014), accessed July 2015, http://cwcbweblink.state.co.us/WebLink/ElectronicFile.aspx?docid=191531&searchid=0e0a416b-3b1d-4d97-92ec-c12350d56016&&dbid=0.pdf.

[6] CDM Smith, CH2M, Sustainable Practices, Peak Facilitation, G. Barber, Project Manager, 2015 Edition, *Arkansas Basin Implementation Plan,* (Pueblo: Arkansas Basin Roundtable, 2015), 166, http://www.arkansasbasin.com/arkansas-bip.html.

[7] CDM Smith, CH2M, Sustainable Practices, Peak Facilitation, G. Barber, Project Manager, 2015 Edition, *Arkansas Basin Implementation Plan,* (Pueblo: Arkansas Basin Roundtable, 2015), 4-8. http://www.arkansasbasin.com/arkansas-bip.html.

[8] SGM, *Colorado Basin Implementation Plan* (Glenwood Springs: SGM, 2015) 136. http://coloradobip.sgm-inc.com/.

[9] SGM, *Colorado Basin Implementation Plan* (Glenwood Springs: SGM, 2015) 14 http://coloradobip.sgm-inc.com/.

[10] Wilson Water Group, *Gunnison Basin Implementation Plan* (Denver: Wilson Water Group, 2015). 40. https://www.colorado.gov/pacific/cowaterplan/gunnison-river-basin.

[11] Wilson Water Group, *Gunnison Basin Implementation Plan* (Denver: Wilson Water Group, 2015). 39-41. https://www.colorado.gov/pacific/cowaterplan/gunnison-river-basin.

[12] HDR, WestSage Water Consultants, *South Platte Basin Implementation Plan* (Denver: HDR, West Sage Water Consultants, 2015) Section S-14. http://southplattebasin.com/.

[13] HDR, WestSage Water Consultants, S*South Platte Basin Implementation Plan* (Denver: HDR, West Sage Water Consultants, 2015) 4-116. http://southplattebasin.com/.

[14] HDR, WestSage Water Consultants, *South Platte Basin Implementation Plan* (Denver: HDR, West Sage Water Consultants, 2015) Section 4.8.2. http://southplattebasin.com/.

[15] Harris Water Engineering, *Southwest Basin Implementation Plan* (Durango: Harris Water Engineering, 2015), 2. https://www.colorado.gov/pacific/cowaterplan/san-juan-and-dolores-river-basin.

[16] Harris Water Engineering, *Southwest Basin Implementation Plan* (Durango: Harris Water Engineering, 2015) 106. https://www.colorado.gov/pacific/cowaterplan/san-juan-and-dolores-river-basin.

[17] AMEC, *Yampa/White/Green Basin Implementation Plan* (Denver: AMEC, 2015) 1-2. https://www.colorado.gov/pacific/cowaterplan/yampa-white-green-river-basin.

[18] AMEC, *Yampa/White/Green Basin Implementation Plan* (Denver: AMEC, 2015), 1-2. https://www.colorado.gov/pacific/cowaterplan/yampa-white-green-river-basin.