STATE OF COLORADO

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TO: Colorado Water Conservation Board Members

FROM: Water Supply Planning Section

DATE: November 8, 2013

SUBJECT: **Agenda Item 24, November 19-20, 2013 Board Meeting Statewide Water Supply Initiative, Basin Implementation Plans and Interbasin Compact Committee Update**

Staff Recommendation

This is an informational item only and no official action is requested or required by the Board.

Background

In support of Colorado's Water Plan, several stakeholder and technical efforts are currently under way. These include SWSI 2016, the Basin Implementation Plans, and the work of the Interbasin Compact Committee. Key sections of SWSI 2016 will serve as the technical platform for the development of Colorado's Water Plan. The Basin Implementation Plans, which will be fully incorporated into SWSI, also provide foundational information for the water plan and especially section five on water management. The recent work of the IBCC could significantly influence the water plan's Subsection 5.10: Cross-Basin Conceptual Agreements and Points of Consensus. Staff will present and discuss with the board progress to date for each of these efforts.

Topics to be discussed are below:

SWSI Structure: Staff will also present a revised approach for SWSI 2016 document. This approach restructures SWSI around scenario planning.

SWSI 2016 Draft Chapter 1: The draft chapter one of SWSI 2016 will be presented to the Board. The chapter provides an overview of the history and evolution of the SWSI process and what the SWSI 2016 report will primarily focus on. Staff will seek comments from the board.

Basin Implementation Plan progress: Staff will give the board a brief update on progress made to date on the Basin Implementation plans.

Interbasin Compact Committee progress: Staff will give the board a brief update on the IBCC's progress during the October meeting. A polling exercise on new supply topics was conducted based on the Board's discussion with IBCC members at its September meeting. Staff will present the results and direction to the board.

Supporting Documentation

1. SWSI 2016 Revised Structure
2. SWSI 2016 Chapter 1 DRAFT
3. BIP Coordination Meeting Schedule
4. BIP Draft Guidance
5. IBCC Meeting Summary

Statewide Water Supply Initiative 2016
DRAFT Descriptive Outline

Background and Purpose: The Colorado Water Conservation Board (CWCB) officially approved the Statewide Water Supply Initiative (SWSI) 2010 Report in January 2011. Like the original SWSI study completed in 2004, the purpose of SWSI 2010 was to provide a comprehensive statewide analysis of water supply, demand, and resulting gaps. In addition, SWSI 2010 continued the inventory of local solutions to meet water supply gaps. At the completion of SWSI 2010 the Board recommended a six year planning cycle for updating SWSI. These periodic updates are important so that SWSI can continue to provide the basis for tracking demands, supplies and other drivers that inform which future scenario Colorado is entering and therefore which water strategies should be implemented.

Since 2010 the Governor has requested that a Colorado Water Plan (CWP) be completed by the end of 2015. This outline for SWSI 2016 has been developed to accommodate this timeline and articulate how the each chapter of the SWSI Update will incorporate and inform the CWP, Basin Implementation Plans, Colorado River Water Availability Study Continuation (CRWAS Continuation), and other efforts. Each of the chapters outlined below will be submitted for Board review as they are completed.

In addition to incorporating the basin implementation plans and the CRWAS, new aspects of this SWSI update will include:

- Incorporation of scenario planning and adaptive management
- Incorporation of climate change into demand and supply analyses
- Hydrologic variability (examine droughts and floods in addition to average conditions)
- Agricultural gap
- Nonconsumptive gap

Relation to Other Pieces: It is envisioned that SWSI 2016 will serve as the primary technical basis for the development of the CWP, which in turn will focus on addressing key policy issues. SWSI 2016 will build off information from the previous SWSI reports and other efforts completed in the interim, such as the adaptive management and scenario planning work of the IBCC and basin roundtables (BRT's).

In addition, SWSI 2016 will incorporate the forthcoming Basin Implementation Plans which will serve as primary inputs to a number of its chapters. The Basin Implementation Plans will focus on projects and methods recommended by the roundtables to address their consumptive and nonconsumptive needs. As such, they are intended to help basins proactively meet water needs, with currently planned projects, re-prioritized projects, and new projects, operational agreements, flow protections, or other methods. The Basin Implementation Plans will also likely include more detailed modeling analysis done via the CRWAS Continuation or WSRA-funded studies in basins outside of the CRWAS area. Other aspects of the CRWAS Continuation, such as its comprehensive review of similar ongoing water studies, will be referenced as well.

Draft: New SWSI Structure

Executive Summary

Chapter 1: Introduction

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Chapter 3: Basin Roundtable Implementation Plan Summaries

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Chapter 4: Scenario Planning

4.1 Challenges and Uncertainty
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4.2.1 Statewide Consumptive and Nonconsumptive Water Needs
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4.2.3 Statewide Social Values
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Chapter 5: Statewide Gap Analysis

5.1 Municipal and Industrial Gap Analysis
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As each chapter is completed references will be noted with each draft.

Chapter 1
Introduction

The State of Colorado (State) is a semi-arid state and as such faces significant and direct water supply challenges. Despite the economic downturn in recent years, the State has continued to experience rapid population growth, and that trend is forecast to continue with Colorado's population projected to nearly double within the next 40 years. If Colorado's water supply continues to develop according to current trends, i.e., the status quo, with a large transfer of water coming from our State's agricultural industry and going to supply growing communities' urban and suburban demand, a significant loss of agricultural lands and potential harm to the environment will result, neither of which meets the needs and interests of the people of Colorado.

Providing an adequate and acceptable water supply for Colorado and its citizens is essential for maintaining a productive and equitable economy. Balancing the current and future water needs of our cities, agricultural communities, recreation and tourism industries, and the natural environment will involve implementing a mix of strategies. These include local water projects and processes, conservation, reuse, agricultural transfers, and the development of new water supplies, all of which should be pursued concurrently. Ultimately, the future of Colorado—both its vibrancy and its beauty—is dependent on how our water resources are sustained, used, and developed.

The Statewide Water Supply Initiative (SWSI), which began in 2003 as a response to the severe drought experienced in 2002 and has been updated regularly, continues to serve as a technical platform for Colorado's water planning efforts related to supplies, demands, and gaps associated with the municipal and industrial (M&I), nonconsumptive, and agricultural sectors. In 2013 Governor Hickenlooper requested Colorado's Water Plan (CWP) be developed by the end of 2015. The intent is that the current SWSI 2016 effort will serve as a common technical platform for the development of the CWP, which in turn will focus on addressing key policy issues.

This update builds off information from the previous SWSI reports and other efforts completed in the interim, such as the adaptive management and scenario planning work of the Interbasin Compact Committee (IBCC) and Basin Roundtables (BRTs), the Colorado River Water Availability Study (CRWAS), and the Basin Implementation Plans (BIPs).

1.1 CWCB History and Mission

The CWCB plays a critical role in establishing water policy in Colorado. Created in 1937, the CWCB's Mission is to Conserve, Develop, Protect and Manage Colorado's Water for Present and Future Generations. The CWCB accomplishes this mission by developing and implementing programs:

- To *Conserve* the waters of the State for beneficial use by working with partners;
- To *Develop* waters of the State in partnership with Colorado's water stakeholders in a manner that:
  - Fully utilizes the State's compact and U.S. Supreme Court decree entitlements; and
  - Helps ensure that Colorado has an adequate water supply for nonconsumptive and consumptive needs;

- To *Protect* the waters of the State by:
  - Assuring maximum beneficial use of the State's water allocations; and
  - Preserving the natural environment;
- To *Manage* the waters of the State by supporting planning efforts of State and local authorities to prepare for varying and extreme (e.g., floods and droughts) hydrologic conditions.

Authorities and responsibilities of the Board and staff are defined in Articles 60 and 92 of Title 37, Colorado Revised Statute (C.R.S.) and in Titles 24, 29, 30, 31, 36, and 39, C.R.S.

The CWCB is a division of the Colorado Department of Natural Resources (DNR). Governed by a 15-member Board, the CWCB is Colorado's state water policy agency. The CWCB performs numerous functions through distinct program areas in support of this role. The Board:

- Provides common technical platforms for planning and policy decisions;
- Builds and manages information to guide actions;
- Helps reduce the impacts of floods and droughts;
- Takes actions to protect Colorado's compact entitlements;
- Holds instream flow water rights to preserve the natural environment to a reasonable degree; and
- Works with partners to develop policies and implement strategies for meeting Colorado's consumptive and nonconsumptive water needs.

With more than 40 staff members, the CWCB functions under six major program areas:

1. Management
2. Finance and Administration
3. Interstate and Federal
4. Stream and Lake Protection
5. Water Supply Planning
6. Watershed and Flood Protection

Each CWCB program is directed by the agency's Statutory Authorities and Responsibilities. Reviewed annually by the Board, the Strategic Plan also contains a Board Member Work Plan, which guides the Board's actions and helps implement the authorities and objectives of the CWCB.

The CWCB consists of 10 voting and 5 non-voting members, identified in Table 1-1. The Governor appoints one representative Board member from each of the State's eight major river basins and one representative member from the City and County of Denver. All appointees are subject to Senate confirmation and serve 3-year terms. The Executive Director of the DNR is an ex-officio, voting member of the Board. The Director of the CWCB, the State Engineer, the Attorney General, the Director of the Division of Colorado Parks and Wildlife, and the Commissioner of the Colorado Department of Agriculture are ex-officio, nonvoting members. To the greatest extent possible, Board appointees are persons experienced in water resource management; water project financing; engineering, planning, and development of water projects; water law; and irrigated farming and/or ranching. No more than five appointees can be members of the same political party.

Table 1-1 CWCB Board Members

Board Member	Basin/Representation	Term	Type of Member
Alan Hamel, Chair	Arkansas River	2011-2014	Appointed
Russ George	Colorado River Mainstem	2013-2016	Appointed
Patti Wells	City and County of Denver	2013-2016	Appointed
John H. McClow	Gunnison-Uncompahgre River	2012-2015	Appointed
Ty Wattenburg	North Platte River	2012-2015	Appointed
Travis Smith	Rio Grande River	2011-2014	Appointed
April Montgomery, Vice Chair	San Miguel, Dolores, Animas and San Juan Rivers	2011-2014	Appointed
Diane Hoppe	South Platte River	2012-2015	Appointed
Jay Gallagher	Yampa/White Rivers	2013-2016	Appointed
Mike King, Executive Director	Department of Natural Resources		Voting Ex-Officio
John Salazar, Commissioner	Department of Agriculture		Non-Voting Ex-Officio
James Eklund, Director	Colorado Water Conservation Board		Non-Voting Ex-Officio
Director	Division of Parks and Wildlife		Non-Voting Ex-Officio
Dick Wolfe, State Engineer	Division of Water Resources		Non-Voting Ex-Officio
John Suthers	Attorney General		Non-Voting Ex-Officio

1.2 Purpose of the Statewide Water Supply Initiative

The mission of SWSI is "to help Colorado maintain adequate water supplies for its citizens, agriculture, and the environment through a mix of solutions," all of which should be pursued concurrently. Such an approach will help ensure that all sectors with water demands are met in a fair and equitable manner. Used as a statewide planning tool, SWSI is a living document, updated as new data and information becomes available. The Colorado Water Conservation Board (CWCB) continues to develop and incorporate the best available information for the benefit of water providers and State policy makers, as they make decisions for achieving the next step—to work together on implementing the necessary strategies to meet near- and long-term water supply challenges.

The SWSI 2010 Report was officially approved by the CWCB in January 2011. Like the original SWSI study, completed in 2004, the purpose of SWSI 2010 was to provide a comprehensive statewide analysis of water supply, demand, and resulting gaps. However, this information was completely updated by fully incorporating the BRT consumptive and nonconsumptive needs assessment. In addition, SWSI 2010 relied on the BRTs to help expand the inventory of local solutions to meet water supply needs.

When approved in January 2011, the Board recommended a 6-year planning cycle for updating and refining future SWSI efforts. These periodic updates are important so SWSI can continue to provide the most current basis for tracking demands, supplies, and examining other drivers that inform which trajectory Colorado is following. This information can then be used to determine which water strategies are most appropriate for implementation. As with all previous iterations of the SWSI, SWSI 2016 is not intended to take the place of local water planning initiatives or project-specific analysis. Rather, it is a technical resource that can be used to develop a common understanding of existing and future water supplies and demands throughout Colorado and to help identify possible means of meeting Colorado's consumptive and nonconsumptive water needs across a range of plausible future conditions.

SWSI 2010 extended the analysis on Colorado's water supply future through a 2050 planning horizon and consequently the CWCB concluded that Colorado's water community should enter an implementation phase to determine and pursue solutions to meet the State's consumptive and nonconsumptive water supply needs. In support of the implementation phase, new aspects included in SWSI 2016 are:

- Incorporation of scenario planning and adaptive management
- Incorporation of climate change into demand and supply analysis
- Examination of hydrologic variability (droughts and flood in addition to average conditions)
- Inclusion of an agricultural gap
- Inclusion of a nonconsumptive gap

These new aspects, coupled with updates of water supply and demand projections, the resulting gap analysis, and inventories of potential basin-specific projects and methods planned to meet forecasted needs, give a comprehensive picture of Colorado's water needs, now and in the future.

To build upon previous efforts, SWSI 2016 also includes more information and emphasis on implementable projects and methods recommended by the BRTs to meet their consumptive and nonconsumptive water supply gaps as part of their BIPs. SWSI 2016 will rely heavily on basin-specific data, information, and recommendations from each BIP developed by the respective BRTs. BIPs focus on projects and methods recommended by the BRTs to address their unique consumptive and nonconsumptive needs. Furthermore, through detailed analysis, BIPs assist each basin in proactively planning and prioritizing projects, and establishing operational agreements and flow protections. All of this information, once assimilated into SWSI 2016, will serve as the technical basis for developing the CWP.

1.3 History of the Statewide Water Supply Initiative

Over the course of more than a decade of work, SWSI has progressed from an inaugural supply and demand study with a final chapter on "Implementation" to SWSI 2010 with projections extended to 2050 and a recommendation to move toward "implementation." SWSI 2016 sets those recommendations in motion and through the BIPs and CWP lays out a path forward. Understanding the history of this ever-evolving process is critical to its continued success as a statewide water planning tool.

In 2003 the Colorado legislature recognized the critical need to understand and better prepare for Colorado's future water supply needs, and authorized the CWCB to implement SWSI 1. Approved by the Board in 2004, SWSI 1 comprehensively identified Colorado's current and future water needs and examined a variety of approaches Colorado could take to meet those needs. SWSI 1 utilized a collaborative approach to water resource issues by establishing "basin roundtables"—diverse groups of individuals representing water interests who provide input on water issues. The BRTs established a grass roots effort for education, planning, and collaborating on water planning issues.

This was followed by SWSI 2, which established four technical roundtables (TRT)—Conservation, Alternative Agricultural Water Transfers, Environmental and Recreational Needs, and Addressing the Water Supply Gap. Each TRT was charged with determining implementable strategies or methods to further understand the needs.

Enacted in 2005, the Colorado Water for the 21st Century Act (Act) institutionalized the nine BRTs and created the 27-member IBCC to facilitate conversations within and between basins. The BRTs and IBCC create a voluntary, collaborative process to help the State address its water challenges.

SWSI 2010 enhanced the available information for use in regional water planning. Like all previous versions of SWSI, SWSI 2010 was a compilation of information to be used for developing a common understanding of existing and potential future water supplies and demands throughout Colorado, as well as laying out a possible means of meeting both consumptive and nonconsumptive water supply needs.

Key elements of SWSI 2010 included:

- Analysis of the water supply demands to 2050, including consideration of the effect of passive conservation on those demands
- Analysis of nonconsumptive needs in each basin, as recommended by the BRTs
- Analysis of water availability in the Colorado River basins
- Implementation element associated with identified projects, water conservation, agricultural transfers (both permanent and nonpermanent), and development of new water supplies
- Development of representative costs for water supply strategies

SWSI 2016 builds upon these previous efforts and accomplishments by continuing to engage stakeholders and providing the technical foundation necessary to ensure adequate water supplies for present and future generations of Coloradans.

1.4 Overview of the Water for the 21st Century Act

In 2005, the Colorado General Assembly passed the Colorado Water for the 21st Century Act (House Bill [HB] 05-1177). This legislation set up a framework that provides a permanent forum for broad-based water discussions, and it created two new structures—1) the IBCC, a statewide committee that addresses issues between basins; and 2) the BRTs, which were established in each of the State's eight major river basins plus the Denver Metro area (Figure 1-1). The purpose of the nine BRTs, shown in Figure 1-2, is to facilitate discussions on water issues and encourage locally driven collaborative solutions to basinwide needs. This legislation asked the basin roundtables to determine their consumptive and nonconsumptive needs as well as projects and methods to meet those needs. As described above, SWSI 2010 incorporated the BRT needs assessments. SWSI 2016 will incorporate updates to that work as well as the projects and methods to meet basin needs, as defined in each BRT's BIP.

The legislation also directs the roundtable membership to include a wide array of stakeholders, which has facilitated the broad-based, cooperative nature of this process..

To help the BRTs accomplish the task of developing basinwide needs assessments groundwork completed during the SWSI 1 study was utilized. However, staff support as well as technical and financial assistance was needed to further develop the needs assessments, support water activities in each of the basins, and implement identified water projects and methods. Using resources provided through HB 06-1400, the CWCB provides staff support and technical assistance to the BRTs and the IBCC for the ongoing implementation of HB 05-1177. The BRTs were also provided financial resources

through Senate Bill (SB) 06-179, which established the Water Supply Reserve Account (WSRA). The WSRA appropriates money to the CWCB to help implement the consumptive and nonconsumptive water supply projects identified by the BRTs, including development of the BIPs. These bills and other relevant legislation are summarized below.

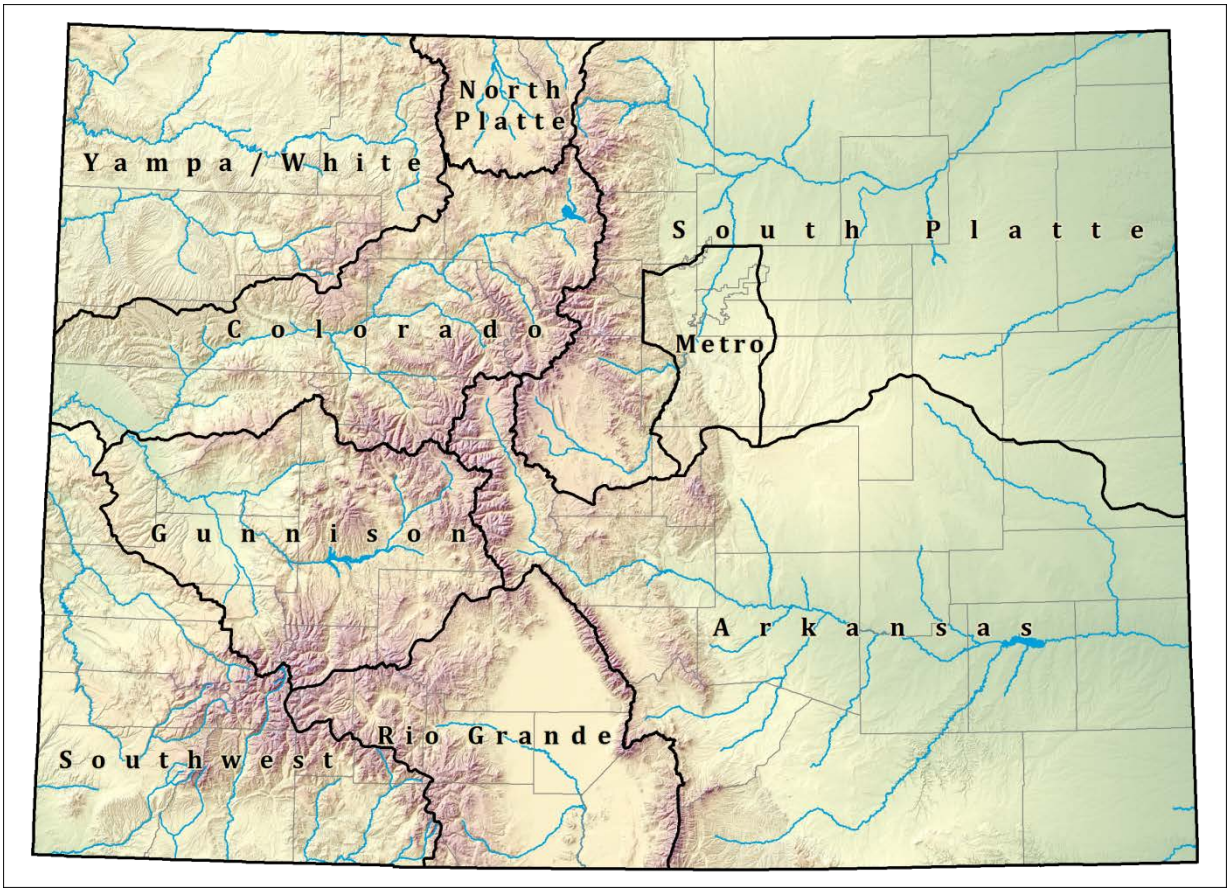

Figure 1-1. Nine Basin Roundtables

SB03-110 authorized SWSI 1, which implemented a collaborative approach to water resources issues by establishing SWSI roundtables. SWSI 1 focused on using a common technical basis for identifying and quantifying water needs and issues.

HB05-1177 or The Colorado Water for the 21st Century Act provides a permanent forum for broad-based water discussions. It creates two new structures: 1) the IBCC, and 2) the basin roundtables. There are nine basin roundtables based on Colorado's eight major river basins and the Denver Metro area.

SB06-179 created the WSRA. Throughout SWSI and Colorado Water for the 21st Century Act processes, there has been a clear recognition that financial assistance is needed to address the water challenges in our state. This legislation funds the WSRA, which directs the State Treasurer to annually transfer $10 million from the Operational Account of the Severance Tax Trust Fund to the WSRA. These monies are available to the basin roundtables to fund water activities.

HB06-1385 created the CWCB's Intrastate Water Management and Development Section, which implements SWSI, the WSRA, develops reconnaissance level water supply alternatives, and tracks and supports water supply projects and planning processes. This section is now called the Water Supply Planning Section.

HB06-1400 appropriated money to the CWCB to fund staffing of the Water for the 21st Century Act process and monies for a contractor to technical assistance the basin roundtables.

SB09-106 authorized the funding of the WSRA in perpetuity.

1.5 Background on Colorado's Major River Basins and Groundwater Resources

The headwaters of eight major river basins drain from the high mountains of the Continental Divide in Colorado, in, as shown in Figure 1-2. Rivers east of the Continental Divide ultimately flow into the Gulf of Mexico, while the western rivers find their way, via the Colorado River, to the Gulf of California and the Pacific Ocean. The interrelationship of these eight river basins is described below and broken out by the four overarching river systems that they comprise. Colorado's groundwater resources are also summarized. The potential effects of climate change have not been addressed in these summaries but will be dealt with in section XXX of the report.

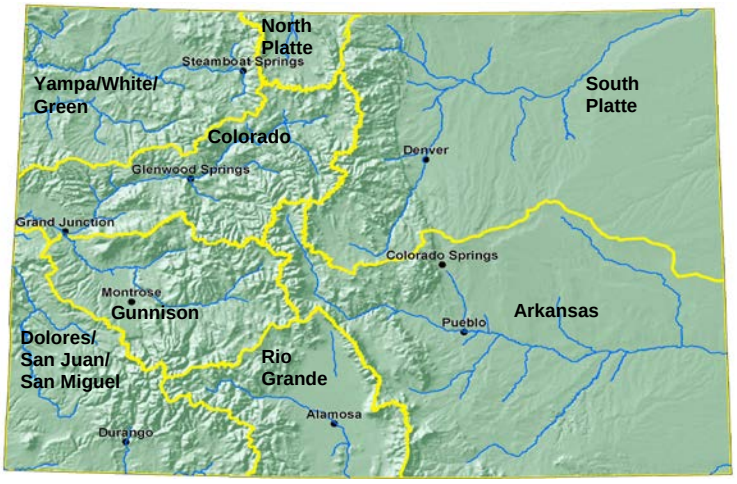

Figure 1-2. Colorado's Eight Major River Basins

1.5.1 Basins of the Colorado River System

The Colorado River system (including tributary basins) drains over one-third of the state's area. Originating in the north central mountains, the main stem of the Colorado River flows southwesterly and is met at Grand Junction by the Gunnison River before flowing west into Utah. The Yampa River and the White River move westward across the northwest quadrant of the State to the Utah border where they join the Green River, another tributary of the Colorado. The San Miguel River and the Dolores River begin near the southwestern corner and travel north along the western border and into Utah. The San Juan River and its tributaries collect the water in the southernmost regions west of the Continental Divide and carry it into New Mexico.

Less than 20 percent of the entire Colorado River Basin lies inside Colorado; however, about 75 percent of the water in the entire river basin originates in the State. In the State of Colorado, transbasin diversions account for about 5 percent of the total water supply, or about 500,000 acre-feet per year (AFY). Most of these transbasin diversions move water from west to east to supply water to the Front Range.

Allocations of water in the Colorado River Basin and its tributaries are subject to the following interstate compacts and international treaties:

- **Colorado River Compact of 1922** – Allocates 7.5 million acre-feet (AF) of consumptive use (CU) annually to both the Upper and Lower Colorado River Basins, with the basin dividing point located at Lee Ferry, Arizona. The compact requires the Upper Basin (Colorado, New Mexico, Utah, and Wyoming) not to deplete the average flow below 75 million AF to the Lower Basin (Arizona, California, and Nevada) during any consecutive 10-year period.

- **Rio Grande, Colorado, and Tijuana Treaty of 1945 between the United States and Mexico** – Guarantees the delivery of 1.5 million AF of Colorado River water to Mexico each year, except in the event of extraordinary drought or serious accident to the irrigation system in the United States, in which case the United States may deliver less water to Mexico.

- **Upper Colorado River Basin Compact of 1948** – Allocates the Upper Basin's apportionment between the four Upper Basin states on a percentage basis. Colorado is entitled to 51.75 percent of the Upper Basin's apportionment. Additionally, the Colorado may not deplete the flow in the Yampa River below an aggregate of 5 million AF over any 10-year period.

Colorado's existing CU of Colorado River system water is estimated to be in the range 2,417,000 AF to 2,634,000 AF (CWCB 2009).

1.5.1.1 Mainstem Colorado River Basin

The Colorado River Basin in Colorado encompasses approximately 9,830 square miles. Elevations in the basin range from greater than 14,000 feet in the headwaters areas to about 4,300 feet at the Colorado-Utah state line. The basin's mountainous upper reaches gradually give way to a series of canyons and gentler terrain as the river flows along the Interstate 70 corridor toward Grand Junction, the Grand Mesa, and the Utah border.

Colorado River

A substantial portion of the basin is comprised of federally-owned land. Rangeland and forest are the predominant land uses in the Upper Colorado River Basin (about 85 percent). Forested land is present throughout many parts of the basin. Livestock grazing, recreation, and timber harvest are the leading uses of the federal lands. Active and inactive mines can be found within the basin; coal mining occurs in the central portion of the Roaring Fork River Valley and in the lower Colorado River Valley.

The Colorado River Basin will face several key challenges with respect to water management issues and supply needs over the next 40 years, some of which are:

- Recreation and the environment are major drivers in the basin and are important for economic health and quality of life. There is some concern that many of these areas are vulnerable for various reasons, including competition with other water needs.

- Agriculture is important in the basin, especially in the lower basin (Grand Valley). However, agricultural lands continue to be urbanized as communities expand, which could impact twenty percent of irrigated lands in the basin.

- The success of the Upper Colorado River Endangered Fish Recovery Program is important. The Upper Colorado River Endangered Fish Recovery Program is designed to address the recovery needs of the Colorado River endangered fish while protecting existing water uses and allowing for the future use of Colorado River water in compliance with interstate compacts, treaties, and applicable federal and state law.

- There is concern over a potential compact shortage during severe and sustained drought and the potential impacts to in-basin supplies.
- The development of water rights associated with transbasin projects are a concern, and their effect on in-basin supplies must be considered.
- Water quality is a concern, particularly related to selenium and salinity issues.

1.5.1.2 Gunnison River Basin

The Gunnison River Basin stretches over 8,000 square miles of western Colorado, extending from the Continental Divide to the confluence of the Gunnison and Colorado Rivers near Grand Junction. The Gunnison River Basin is defined by the Elk Range to the north, the Sawatch Range to the east, the San Juan Mountains to the south, and the Uncompahgre Plateau to the southwest. Water traveling from the headwaters to Grand Junction experience more than 9,500 feet of elevation change.

Gunnison River

The Gunnison River Basin is largely forested. Forest area is distributed throughout the basin and covers approximately 52 percent of the total basin area. About 5.5 percent of the land in the basin is classified as planted/cultivated land and is primarily concentrated in the Uncompahgre River Valley between Montrose and Delta, with additional pockets near Gunnison and Hotchkiss.

Several water management issues have been identified that will present challenges to Gunnison River Basin water users over the next 40 years, summarized as follows:

- Growth in the headwaters will require additional water management strategies.
- Addressing agricultural water shortages in the upper portion of the basin is an important goal of the community; lack of financial resources is an impediment.
- There is concern over possible future transbasin diversions and the effect this might have on the basin.
- Resolving federal issues is a priority, including the completion of the Blue Mesa Reservoir/ Aspinall Unit reoperations environmental impact statement, addressing endangered species issues in the Gunnison River near the confluence with the Colorado River mainstem, and developing a selenium management plan.
- The area between Ouray and Montrose is rapidly growing. Tourism is important in the headwaters areas, but agriculture is dominant in the Uncompahgre Valley. A rapid influx of retirees and growth in the Uncompahgre Valley may dramatically change the agricultural uses and other land uses in the area.

1.5.1.3 Yampa River, White River, and Green River Basins

The Yampa River, White River, and Green River Basins cover roughly 10,500 square miles in northwest Colorado and south-central Wyoming. The basin is defined, in part, by the Continental Divide on the east. The elevation in the basin ranges from 12,200 feet (Mount Zirkel) in the Sierra Madre range to about 5,100 feet at the confluence of the Yampa and Green Rivers at Echo Park within Dinosaur National Monument. The basin contains diverse landforms including steep mountain slopes, high plateaus, rolling hills, incised sandstone canyons, and broad alluvial valleys and floodplains.

Yampa River

Large portions of the basin are federally-owned lands. Livestock, grazing, and recreation are the predominant land uses. Near the Towns of Craig, Hayden, Steamboat Springs, Yampa, and Meeker, much of the land is dedicated to agricultural use. The mountains are densely covered by forest. The valleys and plateaus are mostly covered by shrubland with some forested areas. Steamboat Springs, a destination ski resort, is likely to experience continued and rapid population growth.

For the Yampa River, White River, and Green River Basins, key water management issues for the next 40 years include:

- The emerging development of gas and oil shale resources is impacting water needs both for direct production needs and the associated increase in municipal use.
- Agriculture, tourism, and recreation are vital components of this basin's economy. As the needs of communities and industry grow, competition between sectors could increase.
- Industrial uses, especially power production, are a major water use. Future energy development is less certain.
- While rapidly growing in some areas (Yampa River/Steamboat Springs area), the basin as a whole, is not developing as rapidly as other portions of the State. This has led to concern that the basin will not get a "fair share" of water use afforded to Colorado under the Colorado River Compact in the event of a compact call.
- Implementation of a successful Upper Colorado River Endangered Fish Recovery Program is vital to ensuring protection of existing and future water uses.
- Agricultural producers in the basin would like to increase the amount of irrigated land by 14,000 to 18,000 acres, but the lack of financial resources is an impediment.

1.5.1.4 Dolores River, San Juan River, and San Miguel River Basins

The Dolores River, San Juan River, and San Miguel River Basins are located in the southwest corner of Colorado and cover an area of approximately 10,169 square miles. The Upper San Juan River and its tributaries flow through two Native American reservations—the Ute Mountain Ute Reservation and the Southern Ute Indian Reservation, in the southern portion of the basin.

Dolores River

The terrain of the Dolores River Basin consists of high plateaus with deeply incised canyons and dry arroyos. Elevations in the Dolores River Basin range from 14,200 feet near the Dolores River headwaters to 4,100 feet at the confluence with the Colorado River in Utah. The San Juan River Basin is characterized by rugged terrain, including mesas, terraces, escarpments, canyons, arroyos, and mountains. Elevations in the San Juan River system range from greater than 14,000 feet in the headwaters areas of the Animas and Los Piños Rivers down to 4,500 feet where the Mancos River exits the State just east of the Four Corners region.

Land use in the region is highly variable and often reflects a conflict between historic and modern uses, although three-quarters of the basin consists of forest and shrubland. Agriculture and ranching prevail in the lower elevations of Dolores, San Miguel, and Montrose Counties as they have for many generations. Tourism and recreation have become more established in the region as the Animas, Piedra, Dolores, and San Miguel Rivers offer both fishing and rafting opportunities. Montezuma and La Plata Counties are dominated by agriculture, grassland, and forested land.

In addition to the three compacts governing water use across the broader Colorado River Basin, there are other compacts specific to the Dolores/San Juan/San Miguel region:

- La Plata River Compact of 1922 – Apportions the La Plata River between Colorado and New Mexico.
- Animas-La Plata Project Compact of 1969 – The right to store and divert water for use in New Mexico under this project shall be of equal priority to rights granted under Colorado court decrees for uses in Colorado from the project.
- The Colorado Ute Indian Water Rights Settlement Act of 1988 – Settles the reserved water right claims of the Southern Ute and Ute Mountain Tribes on all streams that cross the reservations of the two tribes, with respect to quantity, priority, and administration.

Identified water management issues that the region's water users anticipate facing over the next 40 years are:

- This multiple-basin area of the State is extremely diverse and is experiencing changing demographics
  - The Pagosa Springs-Bayfield-Durango corridor is rapidly growing, has areas of localized water shortages, and is transitioning from mining and agriculture to tourism/recreation, and a retirement/second home area.

- The Cortez area remains strongly agricultural but is also seeing rapid growth with retirees moving to the area.
- The San Miguel area is a mix of recreation and tourism along with a strong desire to maintain agriculture.

- The Upper Colorado River Endangered Fish Recovery Program and the San Juan River Basin Recovery Implementation Program are designed to work cooperatively to address the recovery needs of the Colorado River endangered fish while protecting existing water uses and allowing for the future use of Colorado River water in compliance with interstate compacts, treaties, and applicable federal and state law, i.e., "The Law of the Colorado River."
- Overall, water supply is available, but getting sufficient infrastructure and water distribution will be a challenge.
- The Colorado River Compact places pressure on uses of the San Juan River because New Mexico's primary source of supply for its Upper Colorado River Basin Compact apportionment is the San Juan River.

1.5.2 South Platte River, Republican River, and North Platte River Basins

1.5.2.1 South Platte River Basin

The South Platte River drainage is the most populous section of the State and serves the area with the greatest concentration of irrigated agricultural lands. This basin (including the Republican River Basin, described below) comprises about 27,660 square miles in northeast Colorado.

South Platte River

The topographic characteristics of the South Platte River Basin are diverse. Its waters originate in the mountain streams along the northern portion of the Front Range, where elevations are roughly 11,500 feet. The river emerges from the mountains southwest of the Denver metropolitan area and moves north through the Denver metropolitan area, then east across the High Plains. The South Platte River crosses the Colorado-Nebraska state line near Julesburg at an elevation of about 3,400 feet and merges with the North Platte River in southwestern Nebraska to form the Platte River.

Approximately one-third of the South Platte Basin land area is publicly owned, and the majority of these lands are in the forested mountains. Western portions of the basin and its montane and subalpine areas are also forested, while the High Plains region is mainly grassland and planted/ cultivated land. This includes the Pawnee National Grassland.

The South Platte River Compact of 1923 apportions the water in the lower section of the river and Lodgepole Creek between Colorado and Nebraska. The lower section of the South Platte River is the reach between the Washington County line and the Stateline (Water District 64). The compact requires the State Engineer to curtail lower section diversions, junior to June 14, 1897, when the flow is less than 120 cubic feet per second at the Stateline gage during the irrigation season (April 1 to October 15) . Water supply in the South Platte Basin is supplemented by transbasin diversions from

the Colorado River Basin and to a lesser degree from the Arkansas, North Platte and Laramie River Basins.

The South Platte Basin will face several key issues and challenges with respect to water management issues over the next 40 years, identified as follows:

- The South Platte Basin is Colorado's most diverse and industrialized basin. Agriculture is still a dominant water use but rapid changes are occurring; the impacts to rural communities are a key concern.
- Competition for water is significant and it is unclear how much competition there is for the same water supplies.
- The success of the Upper Colorado River Endangered Fish Recovery Program for Colorado River endangered fish is important because this program provides Endangered Species Act (ESA) coverage for transbasin diversions.
- The success of the Platte River Recovery Implementation Program (PRRIP) for endangered birds and fish is important because the program provides ESA coverage for water depletions in the Platte River Basin.
- The lack of new major water storage in recent decades (aside from the recent construction of Reuter-Hess Reservoir) has led to reliance on nonrenewable groundwater in Douglas and Arapahoe Counties in the South Platte Basin. Explosive growth in these counties coupled with the lack of surface water supplies led to the creation of multiple small water districts and makes coordinated water development a challenge and less efficient, especially in light of limited renewable surface water supplies.
- Water reuse and conservation are major components to meeting future water needs, but this will put added pressure on agriculture as return flows diminish.
- The urban landscape is very important to the economy and an important component of quality of life.
- Transfers of agricultural water rights to M&I use will continue to be a significant option for meeting future needs.

1.5.2.2 Republican River Basin

The Republican River drains approximately 7 percent of the State's area in northeastern Colorado. The area is primarily agricultural. Water supplies in the basin come from the Republican River and its tributaries, but the primary source of water is groundwater from the Northern High Plains Aquifer, also known as the Ogallala Aquifer.

The Republican River Compact of 1942 establishes the rights of Colorado, Nebraska, and Kansas to water in the Republican River Basin and makes specific allocations of the right to make beneficial

Republican River

Consumptive Use (CU) of water from identified streams. In late 2002, the Republican River Basin completed the settlement of a lawsuit between Kansas and Nebraska, which eventually included Colorado. The lawsuit resulted in the need to reduce some of the CU in the basin within Colorado. The Colorado State Engineer is responsible for administering the terms of the settlement. The Republican River Water Conservation District (RRWCD) was created by the Colorado State Legislature in 2004 to assure local involvement in the State's pursuit of Compact compliance (RRWCD 2010). The RRWCD has taken several actions to assist the State with compliance with the compact and settlement agreement including the construction of a Compact Compliance Pipeline. The pipeline would deliver water from a group of irrigation wells that were purchased by the RRWCD and were taken out of production and the related historical CU (15,000 AFY) would be delivered to the North Fork of the Republican River near the Stateline. The pipeline was completed in 2012 and Colorado is negotiating with Kansas for approval of the augmentation plan that would allow Colorado to receive credit for the water delivered. The cost of the pipeline and the associated water rights were $71,000,000.

1.5.2.3 North Platte River Basin

The North Platte River Basin is located in north-central Colorado within Jackson and Larimer Counties. The basin covers an area of roughly 2,050 square miles. The North Platte River Basin in Colorado is bounded on the east by the Front Range, on the west by the Park Range, on the south by the Rabbit Ears Range, and on the north by the Colorado-Wyoming Stateline. The land surface elevation of the basin valley ranges between 8,000 feet and 9,000 feet.

North Platte River

Land use in the North Platte River Basin includes forest (46 percent) located on the edges of the basin boundaries, shrubland (24 percent), and grassland (17 percent). The shrubland is concentrated in the central portion of the basin. Grassland is typically found near the basin edges just below the forested areas. Agricultural areas primarily are concentrated in the central basin, but also follow the basin's streams and rivers.

A series of U.S. Supreme Court decisions govern interstate water use in the North Platte River Basin, as follows:

- **Nebraska v. Wyoming, 325 U.S. 589 (1945)** – Equitably apportions the water in the North Platte River between Colorado, Nebraska, and Wyoming. Imposes limits on Jackson County irrigated acreage, irrigation season storage, and exports from the Colorado River within Colorado.
- **Wyoming v. Colorado, 353 U.S. 953 (1957)** – Establishes the rights of Colorado and Wyoming to water in the Laramie River Basin; limits Colorado's total diversions and exports from the Laramie River.

The North Platte River Basin will face several key issues and challenges with respect to water management issues and needs over the next 40 years, identified as follows:

- Storage, existing diversion structures, and water right use classification for the Town of Walden, Jackson County's only incorporated municipality.
- Forest management in light of the extensive mountain pine beetle epidemic and the potential damage to watersheds and water supplies from catastrophic wildland fire.
- Quantification of available unappropriated waters within the basin.
- Potential impacts from coal-bed methane development.
- Gaining knowledge and understanding of the basin's consumptive uses and high-altitude crop coefficients.
- Gaining knowledge and understanding of the South Platte Decision Support System, as it may affect the basin and historical documentation of irrigated acreage.
- It is important that endangered species issues on the Platte River in Central Nebraska are successfully resolved through the PRRIP in a manner that does not put pressure on water users to reduce existing uses.
- The equitable apportionment decrees on the North Platte and Laramie Rivers quantify the amount of available water and lands that can be irrigated.

1.5.3 Rio Grande Basin

The Colorado portion of the Rio Grande drainage basin is located in south central Colorado and encompasses less than 10 percent of the State's land area (approximately 7,543 square miles). The San Juan Mountains in the west, the Sangre de Cristo Range in the north and east, the Culebra Range in the southeast, and the Colorado-New Mexico Stateline in the south define the boundaries of the Rio Grande Basin within Colorado. Between the San Juan Mountains and the Sangre de Cristo Mountains lies the San Luis Valley, a principal feature of the Rio Grande Basin, with an average elevation of 7,500 feet.

Rio Grande River

Basinwide, land is evenly divided between public and private ownership. However, the majority of the land in the San Luis Valley is privately owned. The primary use of more than 600,000 acres of irrigated land is agricultural operations in the central portion of the basin, which constitutes the second largest potato producing region in the United States. Areas in the valley that are not irrigated are mostly classified as shrubland (24 percent) and grassland (31 percent). The San Juan and the Sangre de Cristo mountain ranges are largely forested. The northern one-third of the basin is considered to be a "closed basin" and does not contribute any surface flows to the Rio Grande.

Interstate compacts and international treaties affecting water use in the Rio Grande Basin include the Rio Grande, Colorado, and Tijuana Treaty of 1945 between the U.S. and Mexico, the Rio Grande Compact of 1938, and the Amended Costilla Creek Compact of 1963. In particular, the Rio Grande Compact establishes Colorado's obligations to ensure deliveries of water at the New Mexico Stateline

and New Mexico's obligation to assure deliveries of water at the Elephant Butte Reservoir, with some allowance for credit and debit accounts. The obligations are calculated based on the amount of flow at indexed stations, which then by schedule in the compact determines the amount of flow that must be delivered to the downstream state during that year. The compact established the Rio Grande Compact Commission to administer the terms of the agreement. The commission consists of one representative from each state and a non-voting federal representative.

The Rio Grande Basin will face several key issues and challenges with respect to water management issues and needs over the next 40 years, identified as follows:

- The Rio Grande Compact and the effects of sustained drought make the objective of sustainability difficult.
- Agricultural groundwater use is currently at unsustainable levels.
- Economic impacts of reducing irrigation use of groundwater supplies will be difficult, but working on community-based solutions offers the best hope of minimizing the impacts.
- Rapid residential growth, especially in the South Fork area, is creating a need for augmentation of water supplies.
- Groundwater is a key component of water use in the basin for both M&I and agriculture and groundwater management provides a challenge to the basin.

1.6 State and Federal Water Institutions

1.6.1 State Water Institutions

In addition to the CWCB, other state agencies have a role in water resources management within Colorado. Two DNR divisions that oversee water-related activities are the Division of Water Resources (also known as Office of the State Engineer), Colorado Parks and Wildlife (CPW).

The State Engineer's office oversees the regulatory management of state surface water, tributary and nontributary groundwater, water distribution in accordance with water rights, dam safety, and the construction of safe water wells. The Division Engineers act under the supervision of the State Engineer to enforce and protect water rights and water distribution (allocation) in accordance with water rights through a staff of water commissioners located in 80 water districts statewide. The State Engineer and the Division Engineers work with the Water Judges and Water Referees assigned to each water division. Water Judges are appointed by the Colorado Supreme Court to hear all water cases within their respective water divisions. Water Referees work for the water courts and judges and investigate and rule on water right disputes. With respect to groundwater, the State Engineer works with the Groundwater Commission and local Groundwater Management Districts to carry out the rules of the commission and issue well permits. The Groundwater Commission establishes rules for designated groundwater basins across the State and the local Groundwater Management districts may regulate irrigation wells in their districts.

Colorado Parks and Wildlife's mission is to perpetuate the wildlife resources of the state, to provide a quality state parks system, and to provide enjoyable and sustainable outdoor recreation opportunities that educate and inspire current and future generations to serve as active stewards of Colorado's natural resources. CPW policies and regulations are set by an eleven member citizen commission that is appointed by the Governor. CPW is responsible for parks and wildlife management, including the

acquisition of water necessary for wildlife purposes, issuance of fishing licenses, and registration of boats and river outfitters. The commission is also responsible for assessing mitigation of impacts on fish and wildlife caused by development, and coordination with other State agencies in the acquisition of instream flow rights.

Other DNR divisions, such as the State Land Board and Colorado Oil and Gas Conservation Commission, also have water rights or interface with water related topics. In addition to the divisions within DNR that manage water resource issues, several other State and local entities have responsibility for broader water management, including the Colorado Department of Health and Environment (CDPHE), the Colorado Water Resources and Power Development Authority, Water Conservancy Districts, and Water Conservation Districts.

CDPHE plays an important role in State water quality. Its Water Quality Control Commission is appointed by the Governor to establish policy and set standards with respect to surface and groundwater quality. CDPHE's Water Quality Control Division is responsible for the enforcement of these regulations as well as certifying all wastewater treatment operators.

The Colorado Water Resources and Power Development Authority is appointed by the Governor as an independent authority to initiate, acquire, construct, and operate water projects. It has the authority to finance projects through the issuance of revenue bonds and administers a revolving loan fund for wastewater treatment plant construction.

Water Conservancy Districts, authorized in the 1937 Water Conservancy Act, are political subdivisions with power to levy property tax to build and maintain water storage and distribution projects and to lease or sell water. There are over 50 water conservancy districts throughout Colorado.

Not to be confused with Water Conservancy Districts, Water Conservation Districts are established by specific legislation for a large regional area such as a river basin or basins. The legislature has authorized four Water Conservation Districts in Colorado and they are:

- Colorado River Water Conservation District in 1937
- Southwestern Colorado Water Conservation District in 1941
- Rio Grande Water Conservation District in 1967
- Republican River Water Conservation District in 2004

These districts have broad powers to conserve, use, and develop the water resources within the district and have the ability to levy taxes, collect water use fees, and construct water projects as needed for primary and supplemental water supplies.

1.6.2 Federal Water Institutions

Many federal agencies also play important roles in Colorado's water management. Some of these groups have overlapping jurisdictions regarding development and management of water resources as they affect the state. Key federal agencies include:

- **Office of Management and Budget** – reviews all proposals for appropriation of funds for water-related programs.
- **Department of Interior** –responsible for management and conservation of most federal lands and natural resources and includes:
  - **Bureau of Land Management** – manages environmental and recreation water related activities on U.S. public lands.
  - **Bureau of Reclamation** – develops and manages projects (e.g., reservoirs) in the western U.S. for the delivery of water for irrigation, M&I use, and power generation.
  - **National Park Service** – manages U.S. national parks and helps administer other affiliated sites including Wild and Scenic Rivers.
  - **U.S. Fish and Wildlife Service** – administers the endangered species act, manages fisheries, and conducts a wide range of other activities that affect fish and water-based wildlife.
  - **U.S. Geological Survey** – collects, analyzes, and publishes information on the nation's water resources including water quantity and quality data.
- **U.S. Environmental Protection Agency** – administers the Clean Water Act and the Safe Drinking Water Act.
- **U.S. Army Corps of Engineers** – plans, designs, builds, and operates water resources and other civil works projects.
- **U.S. Department of Agriculture** – provides leadership on food, agriculture, natural resources, and includes:
  - **U.S. Forest Service** – promotes the health, diversity, and productivity of the nation's forests and grasslands.
  - **Natural Resources Conservation Service** – partners with local entities to help conserve, maintain, and improve our natural resources and environment and helps fund rural water projects and improvements.
- **Council on Environmental Quality** – responsible for advising the President and federal agencies on environmental policies and procedures and issuing guidelines for the preparation of environmental impact assessments.

1.7 Overview of Report

When the SWSI Update Report is completed, this section will briefly summarize each section of the report.

1.8 Acknowledgements

When the SWSI Update Report is complete, this section will include acknowledgements similar to the SWSI 1 and SWSI 2010 reports.

Basin Implementation Planning Schedule and Meeting Plan for 2013-2014

CWCB Meeting with Basin Representatives and BRT Contractors—December 2013

MEETING 1: Kickoff Basin Goals and Measurable Outcomes

- Overview of the Basin Implementation Plan
- Identify goals and measurable outcomes
- Identify important studies, water management issues, and concerns
- Discuss existing consumptive and nonconsumptive project and methods information
- Present Basin Fact Sheets

CWCB Meeting with Basin Representatives and BRT Contractors—January 2014

MEETING 2: Evaluate Consumptive and Nonconsumptive Needs and Analysis of Constraints and Opportunities

- Review information packages developed regarding needs and opportunities and basin operations list of information sources:
  - WSRA Grant information summaries
  - Nonconsumptive projects and methods database information for each basin (provided as part of the 2011 Basin Reports)
  - Information on the protection that the projects and methods may provide across the basin (provided as part of the 2011 Basin Reports)
  - Focus area mapping (provided as part of the 2011 Basin Reports)
  - Mapping that overlays the projects and methods and focus area mapping (provided in Nonconsumptive Toolbox)
- Review existing hydrology diversions, storage, exchange potential, hydrology (wet, average, dry), and instream flows
- Review updated consumptive projects and methods information and identified projects and processes (IPPs) lists
- Review nonconsumptive needs

CWCB Meeting with Basin Representatives and BRT Contractors—March 2014

MEETING 3: Projects and Methods and Implementation Strategies for Projects and Methods

- Review basin operations analysis
- Discuss shortages and in-basin solutions
- Finalize in-basin solutions
- Provide recommendations on Path Forward
- Identify strategies to ensure public education and acceptance
- Identify funding mechanisms and strategies for implementing water supply projects and methods
- Additional feasibility analysis and identifying partnerships/sponsors

CWCB Meeting with Basin Representatives and BRT Contractors—June 2014

MEETING 4: How Plan Meets Measurable Outcomes

- Provide feedback on draft Basin Reports
- Revisit goals and measurable outcomes
- Report on how Plan meets goals and measurable outcomes
- Identify Basin Implementation Plan sections for consideration in the Colorado Water Plan

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Basin Implementation Plan DRAFT Guidance

Background and Purpose: Governor Hickenlooper issued an executive order calling for CWCB to work with the basin roundtables, IBCC, and other stakeholders to develop the Colorado Water Plan (CWP). The Basin Implementation Plans are a critical input into the CWP, as they will show how each basin plans to meet its future municipal, industrial, agricultural, recreational, and environmental needs. Each Basin Roundtable will help ensure the CWP is a bottom up process by being an avenue to get local project proponent input on which projects and methods are necessary and what other implementation strategies will be needed.

The 2010 State Water Supply Initiative (SWSI) determined that every basin faces a gap between supply and demand. The purpose of the Basin Implementation Plans is for each basin to identify projects and methods to meet basin-specific municipal, industrial, agricultural, environmental, and recreational needs. The Basin Implementation Plans will inform and help drive the Colorado Water Plan. They will review Identified Projects and Processes (IPPs) and the development of new projects and methods that meet the water supply gaps identified in SWSI 2010 and additional shortages outlined in section three. As part of this work, the Basin Roundtables (BRTs) will develop goals and measurable outcomes, needs, constraints and opportunities in each basin. In addition, the plan will identify specific implementation strategies that will be needed to fully realize the projects and methods described in section four and indicate how well the plan meets the goals and measurable outcomes as identified by each BRT.

The Basin Implementation Plans will focus on projects and methods recommended by the roundtables to address their consumptive and nonconsumptive needs. As such, they are intended to help basins proactively meet water needs, with currently planned projects, re-prioritized projects, and new projects, operational agreements, flow protections, or other methods. The Basin Implementation Plans will also likely include more detailed modeling analyses done via the CRWAS Continuation or WSRA-funded studies in basins outside of the CRWAS area.

Relation to the Colorado Water Plan and SWSI: The Basin Implementation Plans will be a fundamental component of the Colorado Water Plan as they will focus on strategies to meet roundtables' consumptive and nonconsumptive water supply needs. The Colorado Water for 21st Century Act established the Basin Roundtables and tasked them to develop a water supply needs assessment, conduct a water supply analysis and propose projects and methods to meet those needs. This work will provide a more detailed analysis and be geared towards implementing projects to meet those needs to address the gap in a meaningful way. This effort will be a foundational component of the update to SWSI and provide critical inputs into the Colorado Water Plan.

Basin Roundtable and CWCB Responsibilities: The description below outlines what resources CWCB can offer to the BRTs. Many roundtables may have a more active role than described in developing each element and may choose to conduct considerably more work than described below. To help with these efforts, BRTs can apply for grant funds to ask for further assistance on any component of the Basin Implementation Plans, including the optional items. A simplified WSRA application is available on the CWCB website.

Outline: Following is the table of contents for the Basin Implementation Plans. Each section presented below will include guidance on what the section should contain, information that the Colorado Water Conservation Board (CWCB) will provide to the Basin Roundtables (BRTs), and sections that are optional.

Table of Contents

Executive Summary

The executive summaries will be included in the Statewide Water Supply Initiative Update (SWSI). The executive summary for each BRT will be between 3 to 5 pages.

Section 1: Basin Goals and Measurable Outcomes

This section provides an opportunity for BRTs to envision what they and the project proponents in their basin can and should accomplish. This section will highlight the water management challenges for the basin based on the 2011 Basin Reports, define the goals and measurable objectives, and describe how the goals and measurable outcomes address the gap identified in the SWSI and stand ready to inform the Colorado Water Plan. Examples could include:

NC Goal: Ensure Cutthroat Trout have sufficient protection to keep them from being listed as threatened / endangered

NC Measurable Objective: Protect 90% of Cutthroat Trout habitat with minimum instream flows.

M&I Goal: Develop projects and methods within the basin that meet as much of the future M&I gap as possible.

M&I Measurable Objective: Develop in-basin projects and methods that meet 150,000 acre feet of additional demand.

Agricultural Goal: Minimize the permanent loss of agricultural acreage to those acres being urbanized and those already planned for in the IPPs.

Agricultural Measurable Objective: Develop agriculture/M&I sharing projects for any agricultural transfers above the 20% agricultural dry-up threshold.

BRTs Responsibilities

The BRTs will provide initial input to CWCB prior to the completion of an initial draft of basin goals and measurable outcomes and work jointly with staff through a subcommittee and the roundtable as a whole to finalize the basin's goals and objectives.

CWCB Responsibilities

Based on information developed by the BRTs as part of their 2011 Basin Reports, SWSI 2010, SWSI 1, the IBCC efforts, and the Basin Roundtable Summits, and recent basin discussions CWCB can develop an initial draft of basin goals and measurable objectives for the BRT to review, revise, add, and subtract from. CWCB will support the BRTs in finalizing their sections to inform the Colorado Water Plan.

Section 2: Evaluate Consumptive and Nonconsumptive Needs

This section will summarize existing reports and information that may be relevant to the Basin Implementation Plans (e.g. SWSI 2010 demands, IPPs, vulnerabilities from the drought plan). The information summarized for this portion of each Basin Implementation Plan will help BRTs measure how well they are currently meeting their goals and objectives as well as identify methods to meet those needs.

BRTs Responsibilities

The BRTs will conduct an inventory of existing water planning information that may be relevant to the Basin Implementation Plan for their basin (e.g. descriptions of basin operations, planning documents identifying water management solutions, and environmental and recreation water-related studies/plans).

The BRTs will review the data summary after CWCB incorporates the information into the report section.

CWCB Responsibilities

CWCB can summarize the information noted as important by the BRTs. CWCB can compare the list of information sources developed by the BRTs with the Water Supply Reserve Account (WSRA) grants, drought planning efforts and other relevant documents for each basin to see if there are relevant WSRA studies or projects that might be incorporated.

2.1 Nonconsumptive Needs

This section will review nonconsumptive needs, based on the work of the BRTs and SWSI 2010. It will reassess this data in the context of the BRTs' goals and measurable outcomes. Using the nonconsumptive project and methods database, the BRTs can work to understand how much of their nonconsumptive needs are being met through existing projects and methods. For instance, data could indicate that 80% of cutthroat trout currently enjoy protection in the basin/identified reaches, leaving a remaining target of 10% to meet the BRT's goal. This effort is further described in the Nonconsumptive Toolbox.

BRTs Responsibilities

The BRTs will conduct an inventory of existing water planning information that may be relevant to the nonconsumptive needs for their basin (e.g. "A Way Forward" on the Dolores, the Watershed Flow Evaluation Tool reports for the Colorado and Yampa/White roundtables, and other environmental and recreation water-related studies/plans).

Based on the information from this inventory and provided by CWCB, the BRTs should address the following questions:

- For each focus segment, are there projects or methods in place for the attributes?
- If they are in place, are they sufficient to maintain/sustain the attributes?
- How well do existing and planned projects and methods meet the need defined in the goals and measurable outcomes section?

BRTs may need to form committees to address these questions. BRTs will submit their answers to the CWCB to inform the Colorado Water Plan and for inclusion in SWSI.

CWCB Responsibilities

CWCB will incorporate the BRT inventory with additional information developed as part of SWSI 2010 and will provide the following information to the BRTs:

- Nonconsumptive project and method database information for each basin (provided as part of Basin Needs reports)
- Information on the protection that the projects and methods may provide across the basin (provided as part of Basin Needs reports)
- Focus area mapping (provided as part of Basin Needs reports)
- Mapping that overlays the projects and methods and focus area mapping (provided in Nonconsumptive Toolbox)

2.2 Consumptive Needs

This section will provide an update to the Consumptive Needs Assessments that were developed as part of SWSI 2010 and will include vulnerabilities from the State Drought Plan.

BRTs Responsibilities

The BRTs will conduct an inventory of existing water planning information that may be relevant to the consumptive needs for their basin (e.g. agricultural needs studies and other municipal, industrial, and agriculture water-related studies/plans).

The BRTs will review information and provide feedback on the draft information prior to incorporation into their respective Basin Implementation Plans.

CWCB Responsibilities

CWCB will incorporate the BRT inventory with additional information developed as part of SWSI 2010 and summarize existing information, breaking it into localized needs for the BRTs to review.

Section 3: Evaluate Consumptive and Nonconsumptive Constraints & Opportunities

The purpose of this section is to help BRTs better understand the constraints and opportunities within their basins to meet their identified needs. The components of this section may include:

- Consumptive and Nonconsumptive Constraints and Opportunities
    - 3.1 Analysis of Constraints and Opportunities Based on Existing Data
    - 3.2 Water Rights Administration Policies and Procedures (Optional)
    - 3.3 Hydrologic Modeling (Optional)

3.1 Analysis of Constraints and Opportunities Based on Existing Data

The purpose of this task is to understand where there are opportunities for projects and methods to be implemented and where constraints exist that currently limit solutions. The task will utilize current water operations in the basin under dry, wet, and average hydrologic conditions and use existing data, tools, and methodologies. For example, a BRT could have a measurable outcome to "Protect 90% of Cutthroat Trout habitat with minimum instream flows." The nonconsumptive needs section could indicate that ten percent more habitat needed to be protected. Section 3.1 would then use existing data to determine which stream reaches have the best opportunities for additional protections and which are constrained. The same would be the case for finding opportunities and constraints for consumptive projects and methods. Within this task, constraints within the basin will be identified and described. Examples of these constraints include:

- Competing or conflicting objectives among local plans
- Conflicting means of achieving the objective among local plans, all portions of the region are not equally represented in local plans

- Jurisdictional conflicts
- Regulatory constraints
- Recreational opportunities, issues and impacts
- Environmental opportunities, issues and impacts

BRTs Responsibilities

The BRTs will work with CWCB staff and consultants to identify the pinch points, other constraints, and opportunities. The BRTs will ensure that the information is accurate and useful once it is summarized and incorporated into the report.

CWCB Responsibilities

The CWCB will work with the BRTs to provide the following information:

- For the major water users in the basin diversions, storage, exchanges and use will be summarized on a monthly basis utilizing existing information (i.e. DSS, Basin Needs Assessments, etc).
- Based on existing information from the Department of Water Resources (DWR), U.S. Geological Survey (USGS), CWCB Decision Support System, and the Colorado River Water Availability Study (CRWAS) Phase 1 CWCB will summarize hydrologic information at key locations in the basin related to the water uses above for wet, dry and average hydrologic conditions
- Instream flows and flow information from programmatic biological opinions
- Mapping summarizing water uses (municipal and agricultural) and hydrology
- Mapping summarizing where the opportunities are to meet nonconsumptive goals and measurable outcomes
- Summary of the constraints and opportunities within the basin

3.2 Water Management and Water Administration (Optional)

The purpose of this activity would be to provide a common understanding of water administration. A BRT could then utilize this common understanding to refine and develop its Basin Implementation Plan report accordingly.

This task is optional and the CWCB will not provide direct support to the roundtables on this task. This effort might be funded through a Water Supply Reserve Account grant. In addition, the CWCB will explore the availability of support under the Colorado River Water Availability Study continuation.

BRT's Responsibilities

Review of existing CWCB and DWR documents addressing water resource management and water administration. Review of cataloged water management information in the Basin Memorandums that were completed as part of the Colorado Decision Support System (CDSS).

The outcome and deliverable for this task would be an inventory listing the major controlling structures within each Water Districts, the period when general water administration begins and ends, acres irrigated, major reservoirs, major basin imports and exports, and any current compact administration within the basin.

CWCB Responsibilities

In addition to exploring the funding opportunities for this task (identified above), CWCB will make available any published documents or reports on water resource management and water administration.

3.3 Hydrologic Modeling (Optional)

The purpose of this task would be to use modeling, such as the CWCB's CDSS, to compare or refine projects and methods. Refinement of a project could be used to optimize operations so that impacts are mitigated or the project can be operated to serve multiple purposes. Modeling can also be used to understand how projects and methods perform under various hydrological scenarios.

Where no existing CDSS modeling is available, models could be constructed using the existing CDSS model framework and a data-centered modeling approach. Deviations from this approach would require CWCB approval.

This task is optional and the CWCB will not provide direct support to the roundtables on this task. This effort might be funded through a Water Supply Reserve Account grant. In addition, the CWCB would explore the availability of support under the Colorado River Water Availability Study continuation.

BRT Responsibilities

The BRTs would develop a request through a WSRA grant application or to CWCB's CRWAS team to model projects and methods. Alternative modeling would require CWCB approval.

CWCB Responsibilities

CWCB would provide technical support in the use of the CDSS modeling framework, provide existing data set created under CRWAS, North Platte Planning Model development, SPDSS, RGDSS and ArkDSS. For the Colorado River basin BRTs, CWCB could have direct interaction through CRWAS continuation. In addition, CWCB would provide the IBCC scenarios.

Section 3.4: Current and Future Shortages Analysis

Previous versions of SWSI have focused on a "projects and methods" gap using a firm-yield analysis. However, many stakeholders have expressed interest in also analyzing a water supply gap, or shortage. Based on information developed as part this section, a shortage analysis will be conducted. For those BRTs that are including the optional tasks, they should also include a shortage analysis in those optional efforts. The shortage analysis will summarize where municipal and industrial, agricultural, and nonconsumptive needs may have shortages under varying hydrology such as wet, dry, and average conditions. For those basins that do not conduct the optional tasks, the CWCB will assist in summarizing known shortages that exist based on existing information.

CWCB will use the shortage analysis to develop a basinwide and statewide shortage and gap analysis to include in the next SWSI update. In addition to the M&I gap, the gap analysis will identify agricultural and nonconsumptive shortages and gaps.

Section 4: Projects and Methods

This section is the heart of the Basin Implementation Plans, identifying the projects and methods needed to meet the roundtables' consumptive and nonconsumptive needs. As part of this task, the BRTs should update and refine their list of consumptive and nonconsumptive identified projects and processes. Because every roundtable has a gap above and beyond their IPPs, the BRTs should also identify potential new structural and non-structural solutions to their gaps and shortages. For those BRTs including the optional tasks in Section 3, they should also include an in-basin solution analysis in those optional efforts. Examples of structural solutions include habitat restoration, new storage, enlarged storage, conveyance, direct reuse, and treatment. Examples of nonstructural solutions could include reservoir reoperation, voluntary flow management agreements, instream flow donations, conservation, and reuse by exchange. For those basins that do not conduct the optional tasks in Section 4, the CWCB will assist those BRTs in summarizing potential in-basin solutions based on the qualitative shortage analysis from section 3.4. The CWCB will assist the Roundtables in identifying projects for the major water sectors as well as multi-purpose projects.

The section will include the following subsections

- 4.1 Education, Participation, and Outreach
- 4.2 Critical Community Watershed Wildfire Protection Plans
- 4.3 Conservation Projects and Methods
- 4.4 New Multi-Purpose, Cooperative, and Regional Projects and Methods
- 4.5 M&I Projects and Methods (i.e. projects, conservation, reuse, drought planning, etc.)
- 4.6 Agricultural Projects & Methods

4.7 Nonconsumptive Projects and Methods
4.8 Interbasin Projects and Methods (optional)

Section 4.1: Education, Participation & Outreach

In 2013 and 2014 the Public Education, Participation, and Outreach Workgroup of the IBCC and the Basin Roundtable Education Liaison's will be working with their basins to develop Education Action Plans that reach out to decision makers. It will let the decision makers in the basin understand how they are represented, the status of the basin's consumptive and nonconsumptive needs, planned projects, current river operation and opportunities and constraints associated with different hydrologic cycles. Where appropriate, this effort can also help roundtables' outreach to potential project proponents for the new projects and methods needed to meet future water needs to determine if they are interested in being partners or the lead entity.

Section 4.2: Watershed Health

BRTs should identify watershed protection projects and methods that would protect critical water supplies from being harmed by fire or other hazards or mitigate damages already incurred. These same projects should also consider the environmental benefits. Watershed/Wildfire Assessments provide strategies for water providers, land management agencies, private landowners, environmental and watershed groups, state and local governments, local fire authorities, and water users that identify and prioritize the type and specific location of treatments necessary to mitigate the impacts that occur to hydrology in a post-fire environment. The plans provide specific actions needed to protect reservoirs, intakes, water transportation and distribution structures, and other facilities from high-severity wildfires. They identify locations of hazardous fuels and areas prone to post-fire flooding. Fuel treatments are designed to protect water infrastructure. These projects and methods should be implemented through a collaborative process with the parties described above. Pre-fire mitigation strategies should identify site locations for sediment check structures, contour log felling, sediment catchment basins, constructed alluvial fans, and other treatments designed dissipate flood energy. Monitoring of pre-fire treatments after a fire is critical to determine levels of success. Basin Roundtables should identify existing plans and assessments. Watersheds critical to water supply that do not have plans or assessments already in place should be addressed. As part of this work, BRTs that have critical water supply watersheds in other basins, should partner with the other basins to determine the best approach.

BRT Responsibilities

BRT members will review existing data, and determine if there are additional watersheds that need assessment.

CWCB Responsibilities

CWCB will provide data, maps, assessments, and plans currently in existence.

Sections 4.3 through 4.8: Multi-Purpose, Conservation, M&I, Agricultural, Nonconsumptive, and Interbasin Projects and Methods

BRTs should identify projects and methods that meet the needs. The focus of the basin implementation plans are on in-basin projects. One of the goals identified by SWSI and the IBCC is to develop additional multi-purpose, regional, or cooperative projects that meet the needs. These projects explored in section 3.2 should meet the needs identified by the BRTs. For sections 3.2, 3.3, and 3.4 projects whose primary purpose is M&I, agriculture, or nonconsumptive needs, respectively, should be identified, including any updates to the IPPs.

As part of section 4.4, each roundtable should determine how to best move forward enhanced levels of conservation in their basin and how to utilize the conserved water. Basin conservation goals, standards, or model conservation programs applicable for the basin can be incorporated as part of this work.

In addition, roundtables may consider out of basin projects that require cross basin cooperation as part of 4.8. This sub-section is optional, as much of this work is being developed by the IBCC in coordination

with the BRTs. Working in partnership with other basins from which the water may come and who may also utilize the water is encouraged.

If available, the BRTs should provide for each sub-section cost information, potential partners, lead entity, volume of water, and timing for any new projects and methods that are added to the list. The costs could include capital costs, debt service, and annual operating and maintenance expenses for the planning horizon.

BRT Responsibilities

The BRTs will assist CWCB in updating the IPP list by reaching out to project proponents in their basin. For additional projects that may be needed, BRTs will be supported in examining the opportunities and constraints within their basin and going through a decision process to determine which projects and methods should be implemented. They will request to the CWCB the need for any stakeholder meetings to further develop projects and methods.

CWCB Responsibilities

CWCB will provide the existing IPP lists and information. In addition, CWCB will help host a few stakeholder workshops for each basin to further explore which projects and methods could be developed the meet the basin's needs. As part of the Basin Needs Decision Support System (BNDSS), CWCB will include any updates and new projects and methods into the database.

Section 5: Implementation Strategies for the Projects and Methods

The Basin Roundtable Implementation Plan will identify water management challenges and opportunities within the Basin and provide a framework for meeting the challenges. Ensuring reliable water supplies is one of the key fundamental actions established by this analysis. The CWCB will work with the BRTs to address their recommendations for the path forward including cross-basin recommendations and collaboration opportunities. The section of the Basin Implementation Plan report may include:

- Description of any cross-basin recommendations or needs for additional cooperation
- Description of what is needed to fully implement the projects and methods. This may include:
    - Identifying strategies to ensure public education and acceptance
    - Identifying funding mechanisms and strategies for implementing water supply projects and methods
    - Additional feasibility analysis and identifying partnerships/sponsors
- Timelines for identified projects and key tasks/milestones

Section 6: How the Plan Meets the Roundtables' Goals and Measurable Outcomes

This section describes how the projects and methods identified in the plan meet the gaps and water supply shortages, in relation to the goals and measurable outcomes. This work will be further refined in SWSI as demands are updated, but it provides an initial benchmark to measurably determine how well the plan would meet the basins' needs. This will inform SWSI and the State Water Plan on how we are meeting our municipal, industrial, agricultural, environmental and recreational gaps in a meaningful way.

BRT Responsibilities

The BRTs will work with CWCB to complete this section.

CWCB Responsibilities

CWCB will help BRTs develop an initial draft and work with them to further refine this section.

Interbasin Compact Committee (IBCC) Meeting
October 1, 2013
Denver, Colorado

Attendees

IBCC

Stan Cazier	Eric Kuhn	Bill Trampe
Carlyle Currier	Jim Lochhead	Wayne Vanderschuere
Jeris Danielson	Olen Lund	Steve Vandiver
Jeff Devere	Kevin McBride	Bruce Whitehead
T. Wright Dickinson	Peter Nichols	Eric Wilkinson
Rep. Randy Fischer	Sen. Gail Schwartz	Jay Winner
Steve Harris	Travis Smith (also CWCB)	Jim Yahn
Taylor Hawes	Joe Stibrich	
Melinda Kassen	John Stulp	

Colorado Water Conservation Board (CWCB)

Russ George	Alan Hamel	John McClow

Participating Staff

Heather Bergman (Peak Facilitation Group)	Jacob Bornstein (CWCB)	James Eklund (CWCB)
	Becky Mitchell (CWCB)	

Welcome and Flood Update

John Stulp welcomed the group and stated that recent flooding in Colorado has been on everyone's mind over the past few weeks. He commended cooperation between local, state, and federal agencies and invited IBCC members from the South Platte and Arkansas basins to provide updates on the impacts of the flood on their regions.

Eric Wilkinson, General Manager of the Northern Colorado Water Conservancy District (NCWCD), provided an update on flood damage in that district, touching on the following points:

- Flooding of this magnitude has not been seen in the South Platte Basin since irrigation began in the basin.
- In several locations, creeks and streams changed course and jumped drainages; in other areas, flumes and headgates can currently be observed in good condition near their original location with no water flowing around them.
- At the peak of the flood, the Big Thompson River had flows of 10-15,000 cubic feet per second (cfs). The Poudre River was flowing at 12,000 cfs at the mouth of its canyon.

- After trash and debris collected under a bridge at 95th Street, Boulder Creek jumped to an adjacent drainage and is currently running 200 feet to the north of a ditch that sends water to the South Platte River.
- At last count, 167 irrigation and diversion structures in the District were destroyed or severely damaged by the flood. Colorado-Big Thompson project structures sustained roughly a third of a million dollars in damage. A large ditch company that provides home water supply in Big Thompson Canyon sustained $2-3 million in damage.
- Many companies do not know where to start in terms of repairs. Especially hard-hit are smaller ditch companies that only irrigate a few hundred acres and are looking at millions of dollars to repair or replace their structures.

Jim Yahn, Manager of the North Sterling Irrigation District, provided the following update on flood damage in the District:

- Flooding was not as destructive on the North Sterling Irrigation District as it was in areas closer to the mountains; there was a little more time to prepare. However, damage was still significant.
- Flooding impacts were the worst near the confluence of the Poudre and South Platte Rivers. The Town of Kersey sustained a great deal of damage.
- Prewitt Reservoir was not damaged significantly, but water came over the headgates and there was quite a bit of trash and debris. The reservoir is taking water now. Empire Reservoir has indicated that they will be up and running in a few weeks. Riverside Reservoir still needs to build a road to access the site and assess the damage.
- Bridges in the District did not sustain much damage, but approaches are washed out which makes it difficult to access structures.
- Flood gates were closed in the District; however, water crossed roads and washed across farm fields to enter and fill the ditch, which broke out in four locations.
- Diversion structures are still in place and sound in the District.

Jim Lochhead, CEO and Manager of Denver Water, provided an update on flood impacts to the Denver Water service area:

- Denver Water sustained $15 million in damage. Downstream gravel pits were inundated and damaged, as were water conduits.
- However, the system functioned well overall during the storm and flooding event.
- Storage increased by 26,000 acre-feet (af). The system is now 97% full.

Robert Sakata, a farmer in Adams County, provided the group with an overview of flooding impacts in his area:

- A major concern among vegetable farmers is when they can resume production. They are not currently allowed to harvest because of potential contamination from raw sewage on

their crops. The Colorado Department of Public Health and Environment has indicated that it could take 2-3 years to resume production if crops have been contaminated.

- Infrastructure needed for augmentation is not currently operational. There is a concern among farmers in the area that they will need to cut back on pumping because they cannot supply augmentation water.
- Crops have been lost in the Brighton area because farmers could not access fields to harvest them.
- The Brighton Ditch Board has only 20 major shareholders and sustained millions of dollars in damage. It is unclear how the group will be able to make payments to conduct the necessary repairs.
- Liability is a further concern among farmers in the area; although flooding was worsened by urban runoff, the presence of residential areas near ditches may result in liability for ditch companies. The ditch was turned off but still over-topped and impacted nearby homes.

Wayne Vanderschuere, General Manager of Water Services for Colorado Springs Utilities (CSU), provided the following update on flooding impacts to his region:

- Compared to flood damage along the South Platte River, what happened in the Colorado Springs area was relatively small. However, it was still significant.
- CSU lost all of its local diversion systems, which provide 8-10 million gallons of water a day. Currently, transmountain water supplies are being relied on while repairs are completed.
- In the Waldo Canyon burn area, flooding destroyed over $10 million in recently-built detention ponds and roads.
- There was a fair amount of local damage and basement flooding in residential areas.

Update on September 24-25 CWCB Board Meeting

John Stulp and Travis Smith provided an update on the recent CWCB Board meeting held in Telluride. Key points are highlighted below.

- Several IBCC members attended the meeting and presented the No/Low Regrets Action Plan to the Board. It was received favorably, and the Board commended the IBCC for the level of agreement reached. The Board discussed a proposal to change the name of the Plan. “Immediate Action Plan for Colorado’s Water Future” was among the proposed alternatives.
- A path forward for a new supply conversation was discussed at the Board meeting. The Board endorsed the plan outlined at the September 11 new supply meeting (see below) and committed to their participation in the process.

Update on September 11 New Supply Meeting

Peter Nichols, Eric Kuhn, Becky Mitchell, and Heather Bergman provided an overview of the New Supply Subcommittee meeting held on September 11. Key points are highlighted below.

- A Venn diagram was produced prior to the meeting that illustrates areas of agreement on proposed approaches to new supply from the East Slope Joint Roundtables White Paper, the West Slope Caucus Statement, the No/Low Regrets Action Plan, and the New Supply Subcommittee Proposal. This diagram formed the basis for discussion at the September 11 new supply meeting.
- The meeting included participants from the New Supply Subcommittee, as well as representatives from East Slope and West Slope basin roundtables.
- After discussion, meeting participants proposed a two-pronged approach to direct conversations about new supply over the next year. One component of the discussion will be to outline a framework agreement about new supply based on the concepts outlined in the New Supply Venn Diagram, and including additional concepts proposed by meeting participants (see attached memo). A second and concurrent component of the new supply discussion will be to define the projected state water gap more precisely.
- Meeting participants suggested that the new supply conversation take place among the IBCC as a whole (instead of the New Supply Subcommittee) and that East Slope and West Slope basin roundtable members be actively engaged in the process. CWCB Board members will also be encouraged to participate in the discussion. The IBCC will make a special effort to engage other stakeholders in the conversation as well, with particular attention to the agricultural, environmental, and recreation communities.
- The goal of the new supply discussion will be to find the highest level of agreement possible in one year and present it to the CWCB Board.

Discussion

- One group member stated that any conversation about the projected state water supply gap should incorporate future West Slope needs. Staff clarified that accounting for West Slope needs is one of the concepts outlined in the New Supply Venn Diagram and that drilling down into West Slope data was included in the New Supply Memo presented to the CWCB Board. This topic will be explored in future new supply discussions.
- Some group members suggested that more dialogue is needed about what the concept of new supply includes. One group member pointed out that the phrase “new supply” can be misleading, particularly to the public, unless water is coming from outside of the state. Another group member stated that language about new supply should clarify that water is being reallocated, not brought in from other states. Other group members emphasized the importance of distinguishing new supply projects from those that are categorized as identified projects and processes (IPPs).
- One group member expressed concern about what a new supply framework agreement would entail, stating that once a specific project has been identified in terms of who will

pay and who will benefit, a specific, limited group of people need to be at the negotiating table. Staff and other group members clarified that a new supply framework agreement is intended to provide a broad set principles regarding new supply projects and will not be a binding or project-specific agreement. This framework agreement can assist the State in facilitating specific agreements and/or helping them move to fruition more efficiently.

- Some group members stressed the importance of addressing risk management in a discussion about new supply. Staff clarified that risk management concepts are included in the New Supply Venn Diagram that will form the basis of the new supply discussion.
- Some group members pointed out that a discussion about new supply will need to explore water supply needs beyond 2050.
- A group member highlighted the importance of feasibility when discussing new supply and emphasized that the amount of available water needs to be considered alongside the projected water supply gap.
- The group discussed whether or not a new supply framework agreement represents the interbasin compact envisioned with the founding of the IBCC.

Further Exploring and Understanding the Gap

To outline work that has already been performed in describing the projected state water gap, Jacob Bornstein provided an overview of the Basin Municipal and Industrial (M&I) Gap Analysis prepared in 2011. Key points are highlighted below:

- The 2011 Gap Analysis breaks down the projected water supply gap for each Colorado basin and the Front Range according to various IPP success rates. It also identifies a projected year for the water supply gap to begin, based on IPP success rates.
- The 2011 Gap Analysis breaks down yields for IPPs based on success rate scenarios and according to basin and either region or county.
- The 2011 Gap Analysis also identifies specific IPPs according to basin and either region or county.

Jacob also presented an overview of what steps will be taken in the future to further refine understanding of the projected water supply gap, touching on the following points:

- CWCB will work with the State Demographer to identify potential changes in demand. The revised demand figured will include water needs from Niobrara shale oil production on both the East and West Slopes.
- Basin roundtables will update information about IPPs and potentially add new IPPs as part of their basin implementation plans.
- Future State Water Supply Initiative (SWSI) analysis will include five scenarios and examine impacts of wet, dry, and average years. This will allow for better planning when extremes occur.
- Nonconsumptive and agricultural water supply gaps will be analyzed along with the M&I gap.

- Work performed as part of the no/low regrets planning effort may be included in future gap analyses.

Discussion

- Some group members expressed concern that the 2011 Gap Analysis projected a gap for an entire basin at a distant date, when local areas within that basin are facing a more immediate gap. A group member suggested that more detailed and locally-based information is needed about timeframes in which water supply gaps will occur. Staff clarified that the 2011 Gap Analysis was two years old and would continue to be improved to reflect more detailed parameters.
- One group member had questions about whether IPPs categorized as "new transbasin projects" in the 2011 Gap Analysis were considered new supply projects. Staff clarified that they were considered IPPs and that for the purposes of this discussion, new supply only referred to unappropriated water.
- A suggestion was made to gather data about which providers are using buy-and-dry practices to acquire their water supply.
- The group discussed further refinement of IPP success rates. Some group members pointed out that using one number to estimate a projected success rate (e.g., 80%) for all IPPs does not reflect the fact that some projects have already completed permitting and are well on their way to being implemented while others are at very early stages; nor does it reflect that some projects will be 100% successful while others might not come to fruition at all. Staff clarified that since the past gap analysis, the basin roundtables further refined the percent success rate for each IPP category as part of their portfolio development.
- A group member suggested incorporating an assessment of whether or not the outcome of an IPP failure is acceptable. In some cases, basins will not be able to implement an IPP, but the outcome, while not ideal, is acceptable. In other cases, such as in areas where existing homes and businesses will have no water if an IPP is not successfully completed, steps will need to be taken to ensure the IPP's success even if water rights, infrastructure, and/or financing are not immediately available.
- A group member pointed out that it will be important to time the IBCC conversation about analyzing the gap with basin implementation plan work. In some cases, the IBCC will need to wait for information to emerge from basin implementation plans in order to have a meaningful dialogue.
- Some group members emphasized the importance of determining the agricultural water supply gap and stated that various parties will need to get involved in quantifying it (e.g., the Colorado Agricultural Water Alliance (CAWA)). Staff clarified that basin implementation plans will set goals and measurable outcomes for agriculture and that CAWA can perhaps help to provide these numbers.

- One group member suggested that data be collected about all potential future water needs for municipalities, agricultural lands, and nonconsumptive values. Other group members felt that this would not be a helpful exercise while the gap continues to increase. Staff clarified that setting realistic goals and measurable outcomes for water needs and allocations will be an important part of basin implementation plans but that it is not a task for IBCC as it works to further understand the gap at the statewide level.
- A group member stated that all data that is collected about a future water supply gap should be presented in a simple and understandable way.
- Some group members had questions about whether the 2011 Gap Analysis accounted for evaporative and transfer losses, and whether the final numbers represented diversion amounts or consumptive use. Staff clarified that the numbers represented "delivered water" rather than diverted water or consumptively used water. One group member suggested that this concept be explained or refined in more detail in future gap analyses and that additional work should be done to account for and reflect reuse and nonconsumptive uses.
- The group discussed the role of the IBCC in gathering data about projected water supply gaps, particularly in light of the fact that much of the needed data will be collected by roundtables through their basin implementation plans. Many group members stated that the IBCC should not gather more data but should focus instead on identifying regional, collaborative solutions to meet localized gaps. .

Cooperative Agreement Panel Presentations

To help inform discussions about a new supply framework agreement, four IBCC members were asked to share their experiences in working through significant cooperative water supply agreements.

Wayne Vanderschuere spoke about the Eagle River Memorandum of Understanding (MOU). Key points are highlighted below.

- The Eagle River MOU was developed in 1998 as a joint-use project between East Slope and West Slope parties.
- It is a 30,000 af project that delivers 20,000 af to Aurora Water and CSU, and 10,000 af for use within the Eagle River Basin.
- Elements that made this cooperative project a success were that it provides certainty around future supply, it is adaptable and flexible, and it provides benefits to all involved parties.

Jim Lochhead provided an overview of the Colorado River Cooperative Agreement (CRCA). Highlights are presented below.

- The CRCA was officially signed and made effective September 26, 2013.
- 40 different entities entered into negotiations, and all of them needed to feel that their interests would be better served with the project than without it.
- A key component of the CRCA's success was confidential negotiations and board-to-board communication and relationship building.
- Going beyond the mitigation required by permitting and agreeing to environmental enhancements was another key component of the CRCA.
- The State can play a major role in agreements like this, particularly when it comes to aligning the efforts of multiple agencies and pushing the process forward.

Joe Stibrich, Manager of Water Resources at Aurora Water, described the Water, Infrastructure, and Supply Efficiency (WISE) Partnership. Key points are highlighted below.

- WISE is a 10,000 af supply agreement in which Denver and Aurora will sell unused water to a group of Douglas County entities, reducing their reliance on non-renewable groundwater.
- Water supplies are provided on an interruptible basis, which allows for flexibility and adaptive management.
- The partnership represents a reallocation of existing supply for Front Range entities and constitutes an efficient use of existing resources.
- Negotiations were conducted between three parties, Denver Water, Aurora Water, and the South Metro Water Supply Authority (SMWSA). SMWSA represented 17 entities. Having fewer parties at the table allowed discussions to proceed more simply than if a larger group had convened.
- While modeling for the partnership was completed in three years, meetings and negotiations took an additional four years. Time and patience is needed for agreements such as this one to occur.

Eric Wilkinson gave an overview of the Windy Gap Firming Project, which will increase the reliability of the Windy Gap Project and lead to an average annual increase of 9-10,000 af of water. Key elements of project success are highlighted below:

- The State played a large role in moving the process forward in terms of mitigation requirements and water right transfers.
- As with the CRCA, environmental enhancement was an important component of the Project's success. 7.5 million will be spent in stream restoration.
- The Project was designed to benefit all parties. One quarter of the 9-10,000 af yield generated by the Project will be dedicated to West Slope uses.

Eric Kuhn, General Manager of the Colorado River Water Conservation District (CRWCD), gave his perspective on state water agreements, many of which have involved the CRWCD. Highlights are presented below.

- A successful agreement needs to ensure that all parties will be better off with it than without it.
- The perfect can be the enemy of the good when it comes to cooperative projects.
- The State needs to incorporate flexibility into water right transfers.
- Confidential negotiations are often required, but it is important that affected parties are brought to the table and that there are no surprises. Multiple boards need to be involved throughout the negotiations so they can trust the process.

Discussion

- The group discussed ways in which elements of successful cooperative projects aligned with components of the New Supply Venn Diagram. A commitment to conservation and reuse was a key part of WISE and CRCA. The role of the State in these agreements was another key theme highlighted by the cooperative project presentations.
- One group member highlighted the importance of intersecting interests in moving cooperative agreements forward and suggested that a second Venn diagram be designed that highlighted interests as opposed to methods. Another group member agreed with this approach, stating that negotiations between various interests are unique to each project. This group member had concerns that a framework agreement could create an additional and burdensome set of requirements on cooperative agreements.
- Some group members pointed out that a common theme among the cooperative agreements presented was the long timeframes and detailed processes that need to occur. Dedication and commitment to the process is needed.
- Some group members expressed frustration about the Section122.2 fish and wildlife mitigation plans required by the State. One group member stated that the environmental community may support an effort to repeal the measure, as it was never endorsed by the environmental community.
- The group discussed the role of the State in cooperative agreements, with many group members stating that the State should play a role in both protecting all interests and expediting legal and permitting processes. One group member suggested that the Executive Branch of the state government be a cooperating party in future water agreements; this would reassure various parties that their interests were being represented while possibly helping to expedite state permitting and mitigation processes. Another group member disagreed with this approach, stating that giving the State that kind of authority would be complicated and problematic. Many group members emphasized the directive of the Governor that state agencies align with each other and cooperate with federal permitting agencies.

- One group member asked whether it was the role of the IBCC to make recommendations to the State through a new supply framework agreement, or whether the IBCC would be creating a process to discuss new supply projects. Staff responded that it was up to the IBCC to identify their own goals in this process.

Mapping out the New Supply Conceptual Agreement Process: Electronic Polling

To start the process of developing a framework agreement for new supply, an electronic polling session was conducted to gauge the opinion of IBCC members about new supply concepts. Covered topics included:

- Conceptual Foundations
- Potential Multi-Purpose Components
- Project Structure Components
- Demand Management Components
- Risk Management Components
- Preserving and Planning for New Supply

For each new supply concept, polling slides listed statements that have emerged from previous discussions and documents relating to new supply. For each statement, group members were asked if: a) substantive agreement had been reached on the concept already, and little to no further discussion was needed, b) the IBCC should continue to discuss the concept, or c) the IBCC should not discuss the during the next year. The results of the polling session are attached at the end of this summary. Highlights from the polling results are presented below.

- For most of the covered topics, a majority of participants believed that substantive agreement had been reached and little to no further discussion was needed.
- However, at least four participants for each topic believed that more discussion was needed during the next year.
- For each covered topic, at least one participant believed that the IBCC should not discuss that topic during the next year.
- The following topics received the highest level of support for further discussion during the next year:
    - "Volatility of interstate water dynamics requires adaptive management approaches to be developed prior to implementation." (63%)
    - "Some of the five IBCC scenarios indicate that additional new supply development is needed beyond the IPPs, and some do not. Therefore, the low regret action is to preserve the option to build a new supply project in the future, not to build a project now or foreclose the opportunity to build it later." (57%)
    - "Determine how one or more new supply options could be preserved and identify some substantive action(s) that can be taken to preserve the new supply option in the near term." (50%)

- "The CWCB should work with basin roundtables to determine how and where a new supply project could be built, including research on potential nonconsumptive impacts, downstream economic impacts, fiscal and partnership structures, and other items needed to develop a strategy and further detail for potential projects. This work may narrow the locations of the potentially viable locations of a future water supply project." (48%)
- "The partnership structure, participants, financing, and operational and structural rules under which a new supply project would operate, including the role of the State, will need to be determined prior to implementation." (46%)
- "Conservation, reuse, and land use actions defined in the No/Low Regrets Action Plan should be substantively completed prior to implementation of a new supply project." (46%)
- "Both West and East Slope agriculture should be preserved. Development of new supply should not be made more difficult than the transfer of agricultural water to municipal uses." (43%)

Discussion

- One group member urged the group to explore the definition of new supply and possibly move to define it as any projects, large or small, that help to meet the gap without causing unacceptable consequences.
- A group member stated that the concepts laid out in the polling exercise could be interpreted by different people in different ways and that more discussion was needed to secure a high level of agreement. A suggestion was made to cluster the concepts according to themes, prioritize them according to the level of agreement identified in the polling session (prioritizing items with the most divided polling responses), and discuss them further at future meetings. The group agreed that staff should cluster these concepts according to their own judgment, prioritize them as described above, and sequence them for discussion at future IBCC meetings in whatever makes sense once staff further analyses the results. A group member expressed concern about the risk management statement provided in the polling session, stating that risk management had to be discussed meaningfully as part of any new supply conceptual agreement. Staff clarified that risk management was intended to be part of the conversation that goes into a new supply conceptual agreement, but that the group would need to strike a balance between discussing risk and not disrupting other conversations relating to the Colorado River Compact.
- Other group members weighed in on the risk management issue. One group member stated that risk management has to consist of adaptive management strategies that allow various parties to react to political or compact developments. Another group member pointed out that risk management is not intended to end potential new supply projects but that it must be addressed directly when examining the feasibility of a project. Some group

members understood that interstate negotiations precluded the possibility of quantifying the risk of a compact call. However, they urged the group to find a way to assure existing users that they would not be harmed in the event of a call. One group member felt that uncertainty about the risk of a compact call was acceptable; however, trigger points and on- and off-ramps should be developed to anticipate various scenarios.

- A group member made a suggestion to hold an information exchange session regarding the State's approach to Colorado River Compact negotiations and to provide some context for how realistic a call may be. Those involved in interstate negotiations can also gather perspectives and information from various basins about how those negotiations affect local interests and operations.

Next Steps

Prior to the next IBCC meeting, staff will cluster and prioritize the concepts laid out in the New Supply Conceptual Agreement polling exercise. The next IBCC meeting will be structured as follows:

- At least part of the day will be spent on an information exchange session about risk management. This session will be considered a starting point for the risk management conversation.
- Further discussion about the concepts laid out in the polling exercise will take place after staff has clustered and prioritized these concepts.

NEW SUPPLY CONCEPTUAL AGREEMENT

Prepared for:
IBCC Meeting
October 1, 2013
Denver, CO

Conceptual Foundations

- There is not likely additional water from the headwaters of the Colorado River mainstem beyond existing IPPs and the cooperative project outlined in the Colorado River Cooperative Agreement.
- Some of the five IBCC scenarios indicate that additional new supply development is needed beyond the IPPs, and some do not. Therefore, the *low regret action* is to preserve the option to build a new supply project in the future, not to build a project now or foreclose the opportunity to build it later.
- Some type of substantive action to preserve the new supply option is needed in the near term.

Polling Options

A. Substantive agreement has been reached on this item; little or no further discussion is necessary.
B. We should continue to discuss this item in order to reach agreement.
C. We should not discuss this item during the next year.

Conceptual Foundations

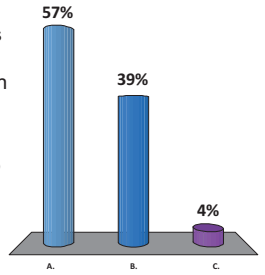
- The gap, and therefore the amount of water that may be needed from new supply, should be minimized as much as possible by implementing IPPs, conservation, and other portfolio elements defined in the No/Low Regrets Action Plan.
- Future water demands are uncertain for both the West and East Slopes, and the ability for each to develop at its own pace must be protected. The ability to meet future West Slope needs, which may develop at a slower pace than East Slope needs, should be protected.
- Future water supplies are uncertain on both the East and West Slopes; reliability and flexibility must be incorporated into any future new supply project.
- In some years there will be water available for an additional transbasin diversion, and in some years there will not.

Conceptual Foundations

- Once the option to develop new supply has been preserved, the need for and feasibility of building a new supply project should be periodically reassessed.
- Implementing projects that protect the environment and help recover imperiled species now will help create future conditions under which a new supply project might be possible. These nonconsumptive projects and methods should be pursued.
- Both West and East Slope agriculture should be preserved. Development of new supply should not be made more difficult than the transfer of agricultural water to municipal uses.

The gap, and therefore the amount of water that may be needed from new supply, should be minimized as much as possible by implementing the IPPs, conservation, and other portfolio elements defined in the No/Low Regrets Action Plan.

A. Substantive agreement has been reached on this item; little or no further discussion is necessary.
B. We should continue to discuss this item in order to reach agreement.
C. We should not discuss this item during the next year.



Conceptual Foundations

Future water demands are uncertain for both the West and East Slopes, and the ability for each to develop at its own pace must be protected. The ability to meet future West Slope needs, which may develop at a slower pace than East Slope needs, should be protected.

A. Substantive agreement has been reached on this item; little or no further discussion is necessary.
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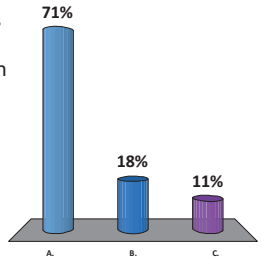

Conceptual Foundations

In some years there will be water available for an additional transbasin diversion, and in some years there will not.

A. Substantive agreement has been reached on this item; little or no further discussion is necessary.
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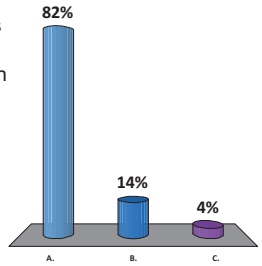

Conceptual Foundations

Some of the five IBCC scenarios indicate that additional new supply development is needed beyond the IPPs, and some do not. Therefore, the *low regret action* is to preserve the option to build a new supply project in the future, not to build a project now or foreclose the opportunity to build it later.

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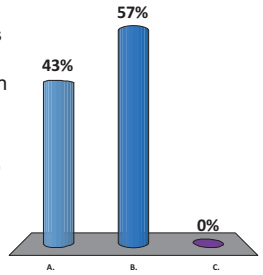

Conceptual Foundations

Future water supplies are uncertain on both the East and West Slopes; reliability and flexibility must be incorporated into any future new supply project.

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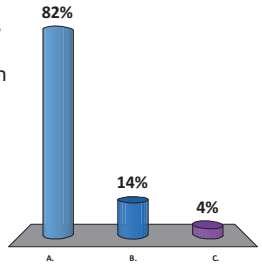

Conceptual Foundations

There is not likely additional water from the headwaters of the Colorado River mainstem beyond existing IPPs and the Colorado River Cooperative Agreement.

A. Substantive agreement has been reached on this item; little or no further discussion is necessary.
B. We should continue to discuss this item in order to reach agreement.
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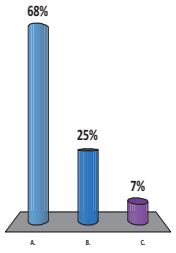

Conceptual Foundations

Some type of substantive action to preserve the new supply option is needed in the near term.

A. Substantive agreement has been reached on this item; little or no further discussion is necessary.
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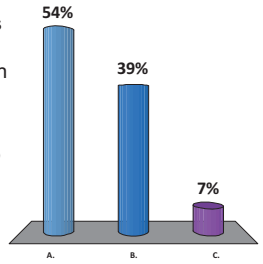

Conceptual Foundations

Once the option to develop new supply has been preserved, the need for and feasibility of building a new supply project should be periodically reassessed.

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B. We should continue to discuss this item in order to reach agreement.
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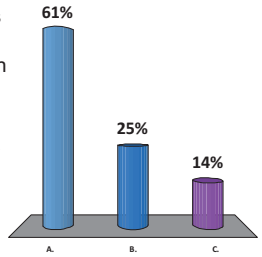

Conceptual Foundations

Both West and East Slope agriculture should be preserved. Development of new supply should not be made more difficult than the transfer of agricultural water to municipal uses.

A. Substantive agreement has been reached on this item; little or no further discussion is necessary.
B. We should continue to discuss this item in order to reach agreement.
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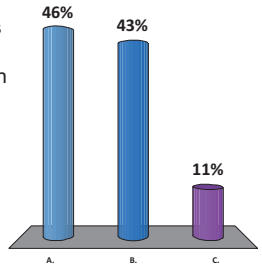

Potential Project Components

A Note of Clarity

Part of an agreement may indicate what component any future project should include or what actions would need to take place prior to a new supply project's implementation.

This *does not* assume that a project will or will not be built.

These items merely indicate that *if* a project were to be built, it would need these types of components and actions.

This is applicable for polling questions on multi-purpose components, project structure, demand management, and risk management.

Conceptual Foundations

Implementing projects that protect the environment and help recover imperiled species now will help create future conditions under which a new supply project might be possible. These nonconsumptive projects and methods should be pursued.

A. Substantive agreement has been reached on this item; little or no further discussion is necessary.
B. We should continue to discuss this item in order to reach agreement.
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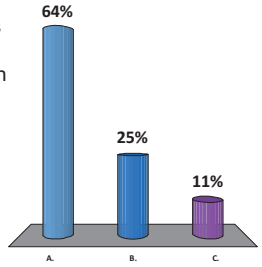
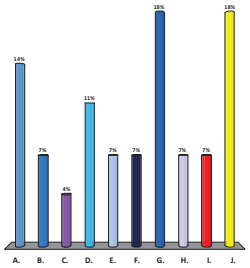


Conceptual Foundations

Which of these concepts is most important to discuss?

A. The gap. . .
B. Future water demands. . .
C. Future water supplies. . .
D. In some years. . .
E. There is not likely. . .
F. Some of the five. . .
G. Some type of. . .
H. Once the option. . .
I. Implementing projects. . .
J. Both West and East. . .



Potential Multi-Purpose Components

Potential Multi-Purpose Components

In addition to meeting East Slope needs, a new supply project should:

- Be developed as a cooperative project so that all parties are better off with the project than without it
- Include compensatory projects for the West Slope
- Not negatively impact existing water rights holders
- Include benefits and/or mitigation for native species and other nonconsumptive values
- Have significant operational flexibility (such as the ability to be used conjunctively with alternative agricultural transfers and nontributary groundwater when water supply is not available)
- Include headwater enhancements (i.e., exchanges with current transbasin diverters to allow for system flexibility if the headwaters were water-short)

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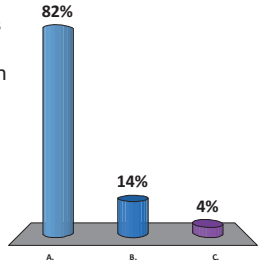

Potential Multi-Purpose Components

In addition to meeting East Slope needs, a new supply project should:

Not negatively impact existing water rights holders

A. Substantive agreement has been reached on this item; little or no further discussion is necessary.
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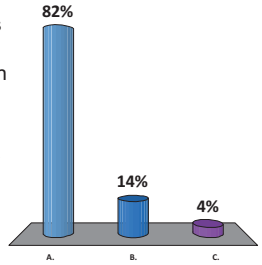

Potential Multi-Purpose Components

In addition to meeting East Slope needs, a new supply project should:

Have significant operational flexibility (such as the ability to be used conjunctively with alternative agricultural transfers and nontributary groundwater when water supply is not available)

A. Substantive agreement has been reached on this item; little or no further discussion is necessary.
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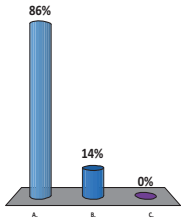

Potential Multi-Purpose Components

In addition to meeting East Slope needs, a new supply project should:

Include compensatory projects for the West Slope

A. Substantive agreement has been reached on this item; little or no further discussion is necessary.
B. We should continue to discuss this item in order to reach agreement.
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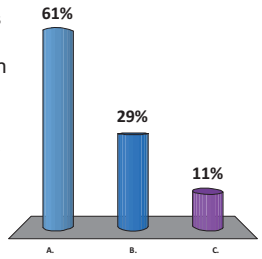
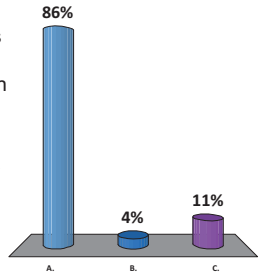


Potential Multi-Purpose Components

In addition to meeting East Slope needs, a new supply project should:

Include benefits and/or mitigation for native species and other nonconsumptive values

A. Substantive agreement has been reached on this item; little or no further discussion is necessary.
B. We should continue to discuss this item in order to reach agreement.
C. We should not discuss this item during the next year.



Potential Multi-Purpose Components

In addition to meeting East Slope needs, a new supply project should:

Include headwater enhancements (i.e., exchanges with current transbasin diverters to allow for system flexibility if the headwaters were water-short)

A. Substantive agreement has been reached on this item; little or no further discussion is necessary.
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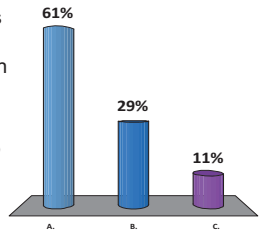
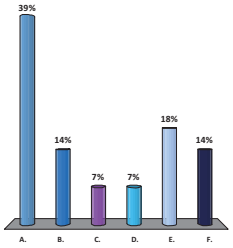


Potential Multi-Purpose Components

Which of these components is most important to discuss?

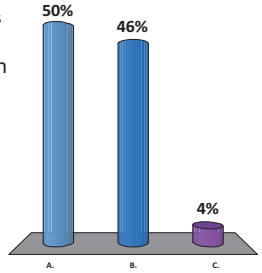
A. Be developed as a cooperative project so that all parties are better off with it than without.
B. Include compensatory projects for the West Slope
C. Do not negatively impact existing water rights holders
D. Include benefits and/or mitigation for native species and other nonconsumptive values
E. Have significant operational flexibility (such as the ability to be used conjunctively with alternative agricultural transfers and nontributary groundwater when water supply is not available)
F. Include headwater enhancements (i.e., exchanges with current transbasin diverters to allow for system flexibility if the headwaters were water-short



Project Structure Components

The partnership structure, participants, financing, and operational and structural rules under which a new supply project would operate, including the role of the State, will need to be determined prior to implementation.

A. Substantive agreement has been reached on this item; little or no further discussion is necessary.
B. We should continue to discuss this item in order to reach agreement.
C. We should not discuss this item during the next year.



Project Structure Components

Project feasibility will need to be determined prior to implementation.

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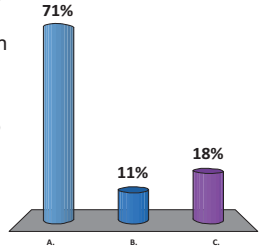
B. We should continue to discuss this item in order to reach agreement.
C. We should not discuss this item during the next year.



Project Structure Components

Project Structure Components

- The partnership structure, participants, financing, and operational and structural rules under which a new supply project would operate, including the role of the State, will need to be determined prior to implementation.
- Proof of need will need to be determined prior to implementation (participants would be required to show proof of the need for a new supply project across likely scenarios, as defined in future SWSI and Colorado Water Plan efforts).
- Project feasibility will need to be determined prior to implementation.
- New supply conceptual configuration should be developed in the near term.

Project Structure Components

Proof of need will need to be determined prior to implementation (participants would be required to show proof of the need for a new supply project across likely scenarios, as defined in future SWSI and Colorado Water Plan efforts).

A. Substantive agreement has been reached on this item; little or no further discussion is necessary.
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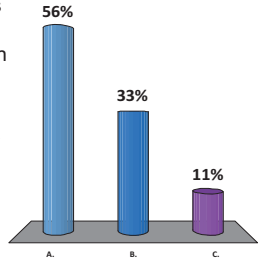
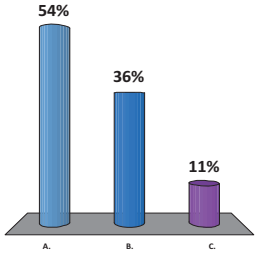


Project Structure Components

New supply conceptual configuration should be developed in the near term.

A. I agree with this concept; the IBCC should take on this work.
B. I'm not sure about this concept; the IBCC should discuss it further.
C. We should not discuss this concept during the next year.



Project Structure Components

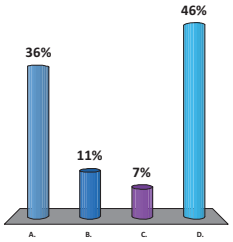
Which of these concepts is most important to discuss?

A. The partnership structure, participants, financing, and operational and structural rules under which a new supply project would operate, including the role of the State, will need to be determined prior to implementation.

B. Proof of need will need to be determined prior to implementation (participants would be required to show proof of the need for a new supply project across likely scenarios, as defined in future SWSI and Colorado Water Plan efforts) .

C. Project feasibility will need to be determined prior to implementation.

D. New supply conceptual configuration should be developed in the near term.



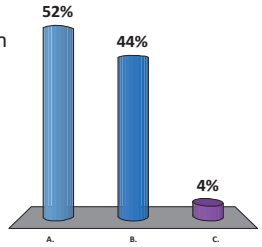
Demand Management Components

Conservation, reuse, and land use actions defined in the No/Low Regrets Action Plan should be substantively completed prior to implementation of a new supply project.

A. Substantive agreement has been reached on this item; little or no further discussion is necessary.

B. We should continue to discuss this item in order to reach agreement.

C. We should not discuss this item during the next year.



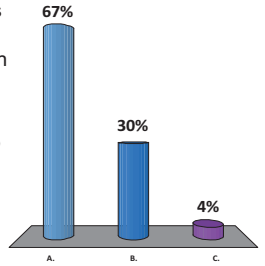
Demand Management Components

Participating water providers who utilize other fully consumable water supplies should have a full-scale reuse program to recycle as much water as is technically and economically possible.

A. Substantive agreement has been reached on this item; little or no further discussion is necessary.

B. We should continue to discuss this item in order to reach agreement.

C. We should not discuss this item during the next year.



Demand Management Components

Demand Management Components

- Conservation, reuse, and land use actions defined in the No/Low Regrets Action Plan should be substantively completed prior to implementation of a new supply project.
- Active conservation plans and activities approved by the CWCB for all participating water providers should be in place prior to implementation of a new supply project.
- Participating water providers who utilize other fully consumable water supplies should have a full-scale reuse program to recycle as much water as is technically and economically possible.
- A commitment should be made by participating East Slope communities to work toward high conservation levels by 2050.

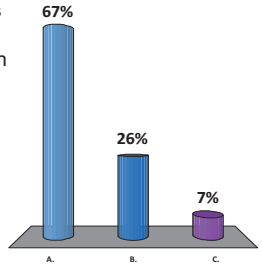
Demand Management Components

Active conservation plans and activities approved by the CWCB for all participating water providers should be in place prior to implementation of a new supply project.

A. Substantive agreement has been reached on this item; little or no further discussion is necessary.

B. We should continue to discuss this item in order to reach agreement.

C. We should not discuss this item during the next year.



Demand Management Components

A commitment should be made by participating East Slope communities to work toward high conservation levels by 2050.

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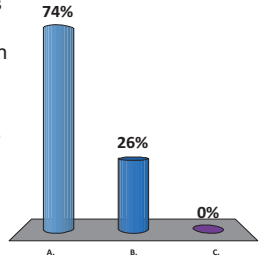
B. We should continue to discuss this item in order to reach agreement.

C. We should not discuss this item during the next year.



Demand Management Components

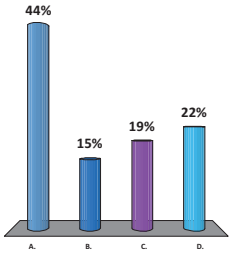
Which of these concepts is most important to discuss?

A. Conservation, reuse, and land use actions defined in the No/Low Regrets Action Plan should be substantively completed prior to implementation of a new supply project.

B. Active conservation plans and activities approved by the CWCB for all participating water providers should be in place prior to implementation of a new supply project.

C. Participating water providers who utilize other fully consumable water supplies should have a full-scale reuse program to recycle as much water as is technically and economically possible.

D. A commitment should be made by participating East Slope communities to work toward high conservation levels by 2050.



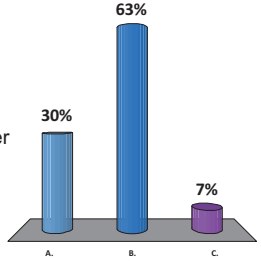
Risk Management Components

Volatility of interstate water dynamics requires adaptive management approaches to be developed prior to implementation.

A. Substantive agreement has been reached on this concept; little or no further discussion is necessary.

B. We should continue to discuss this concept in order to reach agreement.

C. We should not discuss this concept during the next year.



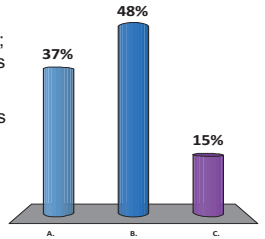
Preserving and Planning for New Supply

The CWCB should work with basin roundtables to determine how and where a new supply project could be built, including research on potential nonconsumptive impacts, downstream economic impacts, fiscal and partnership structures, and other items needed to develop a strategy and further detail for potential projects. This work may narrow the locations of the potentially viable locations of a future water supply project.

A. Substantive agreement has been reached on this concept; little or no further discussion is necessary.

B. We should continue to discuss this concept in order to reach agreement.

C. We should not discuss this concept during the next year.



Risk Management Components

Risk Management Components

- Volatility of interstate water dynamics requires adaptive management approaches to be developed prior to implementation.

Preserving and Planning for New Supply

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- The CWCB should work with basin roundtables to determine how and where a new supply project could be built, including research on potential nonconsumptive impacts, downstream economic impacts, fiscal and partnership structures, and other items needed to develop a strategy and further detail for potential projects. This work may narrow the locations of the potentially viable locations of a future water supply project.
- Determine how one or more new supply options could be preserved and identify some substantive action(s) that can be taken to preserve the new supply option in the near term.

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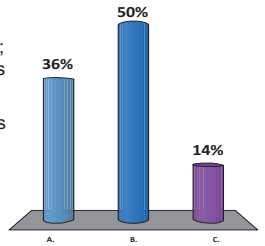
Determine how one or more new supply options could be preserved and identify some substantive action(s) that can be taken to preserve the new supply option in the near term.

A. Substantive agreement has been reached on this concept; little or no further discussion is necessary.

B. We should continue to discuss this concept in order to reach agreement.

C. We should not discuss this concept during the next year.



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Which of these concepts is most important to discuss?

A. The CWCB should work with basin roundtables to determine how and where a new supply project could be built, including research on potential nonconsumptive impacts, downstream economic impacts, fiscal and partnership structures, and other items needed to develop a strategy and further detail for potential projects. This work may narrow the locations of the potentially viable locations of a future water supply project.

B. Determine how one or more new supply options could be preserved and identify some substantive action(s) that can be taken to preserve the new supply option in the near term.