

# STATE OF COLORADO

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## Colorado Water Conservation Board

### Department of Natural Resources

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TO: Colorado Water Conservation Board Members

FROM: Rebecca Mitchell, Water Supply Planning Section

DATE: March 5, 2014

SUBJECT: **Agenda Item 13, March 18-19, 2014 Board Meeting -  
Water Supply Planning Section – Colorado’s Water Plan**

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John W. Hickenlooper  
Governor

Mike King  
DNR Executive Director

James Eklund  
CWCB Director

**Staff Recommendation:** *This is an informational item only. No Board action is required.*

#### **Background:**

In May, 2013 the Colorado Water Conservation Board (CWCB) was charged, through Executive Order D 2013-005, with leading the great effort of creating Colorado’s Water Plan (CWP) by the end of 2015. CWCB board and staff are aligning existing efforts in order to successfully deliver the grassroots-based CWP. This agenda item will continue to be a recurring item in future agendas.

In preparation for this effort, the CWCB has identified a variety of resources from which the agency may draw. The CWP will build upon the work of the Basin Roundtables and Interbasin Compact Committee (IBCC) as well as the findings of Statewide Water Supply Initiative (SWSI). The work of the Roundtables includes their Basin Implementation Plans and the work of the IBCC, which includes scenario planning, the No and Low Regrets Action Plan, as well as emerging discussions, which include new supply development. Several Roundtables have also expressed an interest in having the new supply development conversation. In addition, there are numerous Water Supply Reserve Account studies, the Colorado River Water Supply and Demand Study, and expertise and analysis from across the CWCB and other sister agencies that will need to be incorporated.

At the September and November, 2013 Board meetings, the Board continued to discuss the development and structure of the agency’s CWP efforts and how they fit with other ongoing efforts such as the work of the IBCC and Basin Roundtable process. Emphasis was placed on coordinating these various efforts, necessary timelines for development, and associated roles and responsibilities. The framework for the CWP was reviewed in detail at both meetings, and the Board guided staff through several recommendations for how to further evolve the framework.

In January, 2014 staff presented drafts of the following sections of the Framework to the CWCB Board for review and comment:

- Chapter 1. Introduction and Background
- Section 5.1. Scenario planning and adaptive management and no and low regrets
- Section 5.2. Natural disaster management.

## **Discussion**

Staff will give presentations on key CWP updates and will lead a discussion with the Board on the items outlined below.

## **CWP Framework & Annotated Framework**

The CWP Framework and Annotated Framework are included in the Board packet for reference, however there were no updates incorporated for this Board meeting since there were not any specific Board comments or public feedback received related to these documents at the January, 2014 Board meeting.

Staff will present drafts of the following sections of the Framework to the CWCB Board for review and comment:

- Chapter 2. Overview of Each Basin

The main objective of the overall discussion is to review the draft section of the Framework, and continue to work with the Board to ensure that staff has sufficient direction to move forward with the development of specific elements of the plan and on the timeframes and approach to draft the plan. The Framework and Annotated Framework are living documents.

## **Update on Colorado's Water Plan Outreach and Communications**

After the September 2013 Board meeting, a draft CWP Outreach and Communications Plan was presented in order to provide a cohesive strategy and structure for all CWP communications and outreach activities. Staff also gave a presentation on elements of the CWP Outreach and Communications Plan and reviewed current and planned activities. At the November 2013 Board meeting, staff gave a presentation including the following key topics related to Colorado's Water Plan outreach and communications: Statewide Opinion-Editorials, Colorado's Water Plan Website, and a Review of Public Input Received to Date. In January, 2014 staff provided a summary of current and planned outreach efforts within each basin statewide and reviewed public input received to date.

At the March, 2014 Board meeting, staff will give a presentation including the following outreach items:

### ***Colorado's Water Plan – Review of Public Input Received to Date***

Staff will provide an overview of public input received to date on Colorado's Water Plan and take comments from the Board regarding the process for incorporating those comments. The input received between January 16, 2014 and March 3, 2014, including a summary spreadsheet, is included as an attachment to this Board memo. Please note that the spreadsheet includes staff responses and recommendations. Staff has recommended discussion of one specific comment submitted by Nolan Doesken related to recognizing the importance of climate monitoring within Colorado's Water Plan.

### Draft Framework

Colorado's Water Plan framework continues to evolve. Below is the updated framework based on CWCB Board feedback received during the January 2014 meeting and subsequent public comment. Items that have been changed due to additional input since the November Board meeting are in **red**. Dates for when the initial draft of each section are *grey*, and the items for consideration in January are **bolded**.

#### Executive Summary

- 1. Introduction and Background** *(draft January, 2014)*
  - 1.1. Summary of Colorado water and summary of plan
  - 1.2. Description of State, local, and Federal entities that are involved in water administration, study, planning and project permitting
  - 1.3. Description of Colorado Water Law & Administration
- 2. Overview of Each Basin** *(draft March, 2014)*
- 3. Water Demand by Sector** *(draft September, 2014)*
- 4. Water Supply, Including Description of Historical and Projected Supply** *(draft September, 2014)*
- 5. Water Management**
  - 5.1. Scenario planning and adaptive management and no and low regrets *(draft January, 2014)*
  - 5.2. Natural disaster management *(draft January, 2014)*
  - 5.3. Watershed health/management *(draft September, 2014)*
  - 5.4. Water quality *(draft May, 2014)*
  - 5.5. Meeting the consumptive and nonconsumptive gaps *(draft September, 2014)*
  - 5.6. Conservation and reuse *(draft May, 2014)*
    - 5.6.1. M&I conservation, reuse, and land use
    - 5.6.2. Agricultural conservation
    - 5.6.3. Self-supplied industrial (e.g. conservation of mining and energy water use)
    - 5.6.4. State agency conservation (e.g. Parks and Wildlife, Corrections, State Land Board, etc.)
  - 5.7. Alternative Agricultural to Urban Transfers *(draft May, 2014)*
  - 5.8. Municipal, industrial, and agricultural infrastructure projects and methods *(draft September, 2014)*
    - 5.8.1. Water supply projects and methods
    - 5.8.2. Existing water supply operation and maintenance
  - 5.9. Environmental and recreational projects and methods *(draft September, 2014)*
  - 5.10. Framework on more efficient water project permitting processes *(draft May, 2014)*
  - 5.11. Cross-basin conceptual agreements and points of consensus *(draft September, 2014)*
- 6. Alignment of State Resources and Policies** *(draft September, 2014)*
  - 6.1. Funding/financing
    - 6.1.1. Analysis of the cost to fully implement the CWP
    - 6.1.2. Economic benefit of implementing the plan
    - 6.1.3. Alignment of state funding resources and analysis of other funding opportunities
  - 6.2. State water rights and alignment
  - 6.3. Alignment of other State policies and resources
- 7. Outreach and Public Engagement** *(draft September, 2014)*
- 8. Legislative Recommendations to Assist Fully Implementing the CWP** *(TBD based on plan's content)*
- 9. Process for Plan Update** *(draft December, 2014)*

## INITIAL DRAFT - Colorado's Water Plan Annotated Framework

**Colorado's Water Plan Purpose:** The Colorado's Water Plan (CWP) will leverage and integrate nine years of work accomplished by Colorado's Basin Roundtables, the Interbasin Compact Committee (IBCC), and Colorado Water Conservation Board (CWCB) to determine how to implement water supply planning solutions that meet Colorado's future water needs while supporting healthy watersheds and environment, robust recreation and tourism economies, vibrant and sustainable cities, and viable and productive agriculture.

**Schedule:** A draft water plan will be submitted by CWCB to Governor Hickenlooper by Dec. 10, 2014.

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### Executive Summary

#### 1. Introduction and Background

##### 1.1. Summary of Colorado Water and Summary of Plan

**Objective:** Introduce and outline the framework and structure of the CWP.

**Potential Approach:** Section 1.1 will discuss why the time is right for the CWP and what the CWP aims to accomplish. The section will also build upon Colorado's water values described in the executive order. As stated in the executive order, "Colorado's water policy must reflect its water values. The basin Roundtables have discussed and developed statewide and basin-specific water values and the Colorado Water Plan must incorporate the following:

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

In order to incorporate Colorado's water values and set forth the goals of the CWP, this section will:

- Provide historical context for the CWP and water planning efforts in the state, including the Basin Roundtable (BRT) and IBCC processes, and the Statewide Water Supply Initiative (SWSI).
- Illustrate how the CWP was developed from grass roots efforts.
- Discuss challenges with the status quo trajectory vs. opportunities in the water plan. The CWP will seek to address the identified gaps while maintaining healthy watersheds and environment, robust skiing, recreation and tourism industries, vibrant and sustainable cities, and viable and productive agriculture.
- Information regarding other state water plans, and the need to integrate management of water quality and water quantity.
- Establish how the CWP will utilize SWSI's technical platform.
- Integrate water products.
- Identify what the CWP aims to achieve, which includes:
  - Align state funding and the state's role in water supply and management with the plan's water values;
  - Streamline the state role in the approval and regulatory process regarding water supply and management;
  - Provide background to establish an understanding of the need for state support of water supply projects, along with providing a path to state support of those water supply and water management proposals that stress conservation, innovation, collaboration and other criteria such as promoting smart land use, healthy watersheds for Colorado's rivers and streams, and

smart water conservation practices that utilize demand-management. State support will also recognize that multipurpose projects will be preferred;

- Be constructed from the bottom-up, incorporating the work of the grassroots IBCC and BRTs;
- Protect Colorado's ability to fully use its water within its interstate compacts and agreements and in light of increasing downstream water demands and changing federal requirements;
- Establish a foundation for common-sense changes to the way we manage and transfer our water; and
- Address our looming gap between supply and demand while minimizing the permanent buy-and-dry of irrigated agriculture.

**Supporting Information:** Executive Order, Presentation, talking points, etc.

**Staff Support:** CWCB Staff

## 1.2. Description of State, Local, and Federal Entities that Are Involved in Water Administration, Study, Planning and Project Permitting

**Objective:** Demonstrate that the plan will make water supply project permitting more efficient and effective.

**Potential Approach:** Section 1.2 will be a brief section that will indicate the importance of aligning state resources and working collaboratively with federal and local permitting agencies. In addition, the section will specify that the CWP does not create an extra permitting hurdle for water providers; rather, it will establish a path to more efficient permitting for projects that meet the water values and criteria identified in the CWP, including impacts associated with the water project.

**Supporting Information:** Information from State and Federal entities, 122.2, CWA Section 401, NEPA, ACTS, ESA, local regulations and permit criteria (1041 regulations; see NWCCOG's list of headwaters' local regulation document)

**Staff Support:** CWCB Staff and Department of Natural Resources (DNR) Executive Director's Office (EDO) staff, Colorado Department of Public Health and Environment (CDPHE) staff, Colorado Parks and Wildlife (CPW) staff

## 1.3. Description of Colorado Water Law & Administration

**Objective:** Demonstrate how the CWP will work with Colorado water law and supports the doctrine of prior appropriation.

**Potential Approach:** Write a short section that describes how the plan works with Colorado water law to meet Colorado's future needs. This section will reaffirm the prior appropriation doctrine.

**Supporting Information:** Numerous sources, including C.R.S. 37-92-101 et. Seq., Colorado Constitution Article XVI, Sections 5 and 6, Interstate Compacts

**Staff Support:** CWCB Staff, Attorney General's Office, and Division of Water Resources (DWR)

## 2. Overview of Each Basin

**Objective:** Demonstrate the diversity of needs and interests throughout Colorado and to highlight each basin's importance in relation to Colorado's water values.

**Potential Approach:** Section 2 will include a brief summary of each basin, pulling content from SWSI where appropriate. In addition, this section will include information about how CWCB has supported each basin, such as with instream flows, flood assistance, drought assistance, compacts that are important to the basin, and major funding efforts that have occurred within the basin.

**Supporting Information:** SWSI 1 and 2, Basin Fact sheets

**Staff Support:** CWCB Staff

## 3. Water Demand by Sector

**Objective:** Illustrate Colorado's significant municipal, industrial, agricultural, environmental, and recreational water needs

**Potential Approach:** Section 3 will be a brief section summarizing Colorado's consumptive and nonconsumptive needs.

**Supporting Information:** SWSI 2010, HB 1051, SWSI update, BRT work

**Staff Support:** CWCB Staff

**Potential Stakeholder feedback:** N/A

**Additional Questions or needs:** HB 1051.

#### 4. Water Supply, Including Description of Historical and Projected Supply

**Objective:** Describe Colorado's variable water supplies and highlight where there are critical limitations and opportunities.

**Potential Approach:** Section 4 will be a brief section that includes content regarding Colorado's surface and groundwater water supplies and how it relates to other states. The section will refer to the BIPs and SWSI update and be consistent with the IBCC scenarios. In addition to climate change, one of the limitations and concerns for the future will be dust on snow. Conversely, one of the opportunities is weather modification. The section will not describe project specifics.

**Supporting Information:** Executive Order, Bureau of Reclamation (BOR) Colorado River Basin Supply and Demand Study, SWSI 2010, BRTs, Drought Plan and Task Force work, Colorado River Water Availability Study (CRWAS), Front Range Vulnerability Study, SWSI update Ch. 7 on Scenario Planning and Adaptive Management, IBCC and BRT work on scenarios, Drought Task Force, Climate Change Technical Advisory Group.

**Staff Support:** CWCB Staff

#### 5. Water Management

##### 5.1. Scenario Planning and Adaptive Management and No and Low Regrets

**Objective:** Ensure that the CWP prepares Colorado for a broad range of potential futures and to show how the CWP builds upon the work of the BRTs and IBCC and to identify initial strategies to meet Colorado's future water needs.

**Potential Approach:** Section 5.1 will include a brief and simplified narrative that indicates that the CWP is aimed at being successful regardless of what future Colorado faces. Summarize the no and low regrets. This section will frame how the other subsequent components fit into the CWP. This section will indicate where this information came from.

**Supporting Information:** BRT and IBCC Portfolio and scenario work, SWSI Update Ch. 7., IBCC No/Low Regrets Action Plan

**Staff Support:** CWCB Staff

##### 5.2. Natural Disaster Management

**Objective:** To characterize and assess the impact that natural disasters such as drought, flood and wildfire have on the water systems and water availability for Colorado, both now and into the future.

**Potential Approach:** Utilizing previously completed studies such as the CRWAS, Drought Plan & Flood Plan, as well as the latest CMIP 5 climate change data, CWCB will examine the role that natural disasters have on the water systems and water availability for Colorado under current conditions as well as under a changing climate.

**Supporting Information:** 2010 & 2013 Drought Mitigation & Response Plan, 2010 & 2013 Flood Mitigation & Response Plan, CRWAS, new analysis of CMIP 5 under CRWAS phase 2 and SWSI 2016

**Staff Support:** CWCB Staff

### 5.3. Watershed Health/Management

**Objective:** Show how Colorado can pull together the state's consumptive and nonconsumptive interests in order to protect critical watersheds from fire and other natural hazards, such as floods, beetle kill, and drought.

**Potential Approach:** Section 5.3 will synthesize the BIP watershed health sections, and indicate any existing support garnered from downstream states and/or federal agencies. Based on successful examples and lessons learned, the section will make specific recommendations for how a successful partnership between local stakeholder groups, the state and federal agencies can be formed to respond in emergency situations.

**Supporting Information:** BIP watershed health section and the Colorado State Forest Service watershed report. Information on fire impact to downstream states, existing plans, U.S. Forest Service information. This includes incorporating the request of some local staff at federal agencies to use stewardship opportunities and management tools.

**Staff Support:** CWCB Staff, Colorado State Forest Service staff

### 5.4. Water Quality

The contents of this section will be outlined by the State's interagency water quality and quantity group and contents will rely on stakeholders statewide.

### 5.5. Meeting the Consumptive and Nonconsumptive Gaps

**Objective:** Demonstrate how the CWP rests upon the foundation of BRT work and indicate that the CWP incorporates the BIPs, which should meet most of Colorado's future water needs while maintaining the state's water values.

**Potential Approach:** Synthesize and summarize the BIPs showing how they will measurably meet Colorado's future water needs. While a few projects may be highlighted, the section will primarily refer to the BIPs.

**Supporting Information:** BIPs, especially section 6.

**Staff Support:** CWCB and CPW Staff

### 5.6. Conservation and Reuse

5.6.1 Municipal & industrial (M&I) conservation, reuse, and land use

5.6.2 Agricultural conservation

5.6.3 Self-Supplied Industrial (e.g., conservation of mining and energy water use)

5.6.4 State agency conservation

**Objective:** Indicate the amount of conservation that can be utilized to meet Colorado's future water needs.

**Potential Approach:** Section 5.6 will pull from various resources and will highlight recent BRT or legislative progress on the topic. Section 5.6.1 M&I conservation, reuse, and land use will synthesize BIP action on conservation, reuse, and land use and any legislative movements forward and summarize the pros and cons of M&I conservation. It will recognize demand hardening as a concern and will describe land use efforts related to the No and Low Regrets Action Plan. The subsection will also highlight reuse efforts, including graywater, potable reuse, and reuse for irrigation purposes. Section 5.6.2 Agricultural conservation will summarize the work of Colorado Agricultural Water Alliance. It will also recognize Colorado's unique issues with agricultural conservation related to the fact that 1) Colorado is a headwaters state and must consider interstate concerns, 2) there are limitations due to the protection of return flows for downstream users, and 3) nonconsumptive needs could be positively or negatively impacted. For section 5.6.3 Self-Supplied Industrial, summarize efforts to partner with industry, including the water savings associated with utilization of natural gas and renewable energy sources. This section could be focused on the energy/water nexus more generally and describe recent energy/water nexus



efforts. For Section 5.6.4., State agency conservation, the section should indicate how state agencies are leading conservation efforts.

**Supporting Information:** SWSI 2010, Best Practices manual, Ag conservation paper, state agency water/energy conservation paper, Colorado & Yampa/White BRT energy study, nonprofit reports and memos on water/energy nexus, Letter to the Governors, information from water/energy workshops, SWSI Update (especially on industrial needs), BIPs, Colorado River Basin Supply and Demand Study and associated Next Steps Processes, and examples of local conservation plans

**Staff Support:** CWCB Staff, relevant staff from other state agencies

## 5.7. Alternative Agricultural to Urban Transfers

**Objective:** Showcase recent and ongoing efforts allowing for water sharing between agricultural and municipal water users.

**Potential Approach:** The current path Colorado is on is the continued long term permanent dry up of Colorado's irrigated agriculture. Section 5.7 will lay a path for agricultural producers and municipalities to have a greater suite of options, while not rewriting property rights. The section will discuss recent legislative efforts to allow for alternative transfer method pilots, and will further the technical information, which indicates that approximately 50,000 acre-feet of agricultural water will be needed in the Front Range. Relevant aspects of the East Slope Basin Implementation Plans and the No and Low Regrets Action Plan will be incorporated. Examples, such as conservation easements which tie water to agricultural lands while allowing for temporary leasing on fallowed lands, will be highlighted. The section will also include an identification of some of the legal constraints.

**Supporting Information:** H.B. 1248 and associated Guidance and lessons learned from any pilots, Colorado Agricultural Water Alliance, Ag Policy Dialogue, Alternative Transfer Method grants and report, existing law concerning water banks, interruptible supply agreements, etc., information from discussions with the Colorado Water Bar

**Staff Support:** CWCB Staff, DWR Staff, Colorado Department of Agriculture Staff

## 5.8. Municipal, Industrial, and Agricultural Infrastructure Projects and Methods

### 5.8.1. Water supply projects and methods

### 5.8.2. Existing water supply operation and maintenance

**Objective:** Summarize the type and amount of infrastructure projects and methods needed to meet our current and future water supply needs, to indicate how much this infrastructure will cost, and to highlight multi-purpose and regional projects and methods from the BIPs. In addition this section will draft incentive-based criteria, which can be used upon the request of a project proponent, to help a new project that may be lacking become a project that is worthy of state support. It will also include an evaluation process and actions that take place when criteria are met. Similarly, for existing water supply operation and maintenance, criteria and a rubric for CWCB financing will be included. These efforts will be utilized in the permitting and funding section of the plan.

**Potential Approach:** Informed by the BIPs, Section 5.8 will summarize the amount of additional infrastructure Colorado will need to meet our future consumptive needs while striving to uphold Colorado's water values. This will include measures to keep agriculture in production in the state and support environmental and recreational needs as part of multi-purpose projects. Operation and maintenance will be impacted by the flooding on the South Platte and Arkansas, and the assessments sent to FEMA will be summarized. In addition, the section will estimate how much the infrastructure will cost.

**Supporting Information:** Cost estimates from SWSI 2010, BIPs, SWSI Update (e.g., section 8), CWCB Strategic Framework, flood assessments

**Staff Support:** CWCB Staff, Colorado Department of Agriculture Staff



### 5.9. Environmental and Recreational Projects and Methods

**Objective:** Summarize the environmental and recreational projects and methods needed for protecting Colorado's environmental legacy and recreational opportunities, and to highlight important regional projects and methods.

**Potential Approach:** Informed by the BIPs, Section 5.9 will summarize the amount of additional projects and methods that will be needed to maintain and, in some cases, enhance Colorado's environmental and recreational attributes, while maintaining Colorado's water values, including the support of local economies. The section will describe how multi-purpose projects can benefit the environment and recreation and how agricultural uses can add value to these nonconsumptive uses as well. In addition, the section will estimate how much the projects and methods will cost. The section will indicate the total number of projects, amount of protected or restored habitat, amount of protected or restored stream miles, and the expected benefit to nonconsumptive attributes.

**Supporting Information:** SWSI 2010, SWSI Update, BIPs, nonconsumptive database and Identified Projects and Processes (IPPs), Nonconsumptive toolbox, "Water and its Relationship to the Economies of the Headwaters Counties" study, December, 2011

**Staff Support:** CWCB and CPW Staff

### 5.10. Framework on More Efficient Water Project Permitting Processes

**Objective:** Show how the CWP will help make the water supply project permitting processes more integrated, effective and efficient, especially for those projects that meet Colorado's water values and fit within the CWP framework.

**Potential Approach:** This section will summarize the work of local, state and federal permitting entities to accomplish the recommendations in the no and low regrets action plan that builds on the collaborative partnership that the State of Colorado already has with its federal partners. The draft indicates two main actions:

- **Streamline state permitting processes for IPPs that meet values of the CWP:** The Executive Order directs the CWP to help expedite permitting at the state level. The state should develop an approach to permitting IPPs that efficiently moves projects through the process and toward an outcome, whether positive or not, while ensuring sufficient protection of nonconsumptive and other values. Public engagement and community outreach regarding water supply needs and potential impacts of water supply projects may need to increase in affected communities and needs to occur as early as possible in the project planning process to facilitate an efficient permitting process.
- **Improve state coordination with local and federal permitting entities:** The state should continue to meet with federal agencies and local governments and look for opportunities, including entering into MOUs, to make NEPA and permitting processes more efficient and coordinated, especially for projects that meet the values of the CWP and are needed across multiple scenarios. Efficiency would not dictate whether the outcome is positive or not.

If there are pertinent aspects of the BIP's, those will be included as well. In addition, the CWP will consider any recommendations from the Quality and Quantity Workgroup recommendations on how quality and quantity policies should be linked, and seek to build off other successes, such as those in the endangered species recovery programs.

**Supporting Information:** CWCB Strategic Framework, No/Low Regrets Action Plan, any results from coordination meetings between state and federal permitting entities, ES white paper, Letter to the Governors, Mark Pifher Letter, nutrient rules, applicable law, Quality and Quantity Workgroup, information from local, state and federal permitting entities, information from project proponents, local governments, nonprofits, and other stakeholders on the permitting process, and information from the nutrients standards process, the work of CDPHE, list of land use plans and 1041 regulations from the

Northwest Colorado Council of Governments, the Colorado Water Quality Forum, nonconsumptive workshop comments at the 2013 Watersheds Conference, and the combined joint review process

**Staff Support:** CWCB Staff, EDO Staff, CPW Staff

#### 5.11. Cross-basin Conceptual Agreements and Points of Consensus

**Objective:** Highlight water management agreements achieved across basins and provide support to these agreements by virtue of incorporating them into the CWP.

**Potential Approach:** Section 5.11 will summarize existing agreements and discuss the importance of additional agreements. It will also detail any new agreements developed as part of the process and discuss any agreements that are underway. As part of this work, the section will explore criteria for a good new supply project or package of projects.

**Supporting Information:** Basin Roundtable Project Exploration Committee, No/Low Regrets Action Plan, Letter to the Governors, new supply subcommittee chairs letter, West Slope Caucus, East Slope white paper, existing agreements that may serve as models for potential conceptual agreements to resolve permitting issues, water rights disputes, or other issues in the basin of origin (e.g., Colorado River Cooperative Agreement, Windy Gap Firming Agreement), Basin Roundtable and IBCC discussions.

**Staff Support:** CWCB Staff

## 6. Alignment of State Resources and Policies

### 6.1. Funding/Financing

6.1.1. Analysis of the cost to fully implement the CWP

6.1.2. Economic benefit of implementing the plan

6.1.3. Alignment of state funding resources and analysis of other funding opportunities

**Objective:** Indicate how the CWP can be implemented from a funding perspective and demonstrate that doing so would be beneficial for the vibrancy of the state. If additional funds beyond current resources are needed, it will demonstrate how such funds could be acquired.

**Potential Approach:** Drawing from SWSI and other resources, this section will briefly discuss the costs and economic benefits of implementing the plan and then discuss in greater detail how the CWP could be funded. This will include existing funding options such as CWCB loan and grant programs, Water and Power Authority loans, water provider / customer oriented funding, as well as private and federal options. If additional funds are needed, it will recommend a funding approach. Section 6.1.3 will indicate how state funding can be aligned with meeting the priorities set forth in the CWP.

**Supporting Information:** No/Low Regrets Action Plan Appendix B, SWSI 2010. SWSI Update, information from various funders (e.g., Water and Power Authority, Bureau of Reclamation, private funding entities), information from the Water Infrastructure Finance and Innovation Authority (WIFIA) and the Water Infrastructure Network (WIN), CWCB Strategic Framework

**Staff Support:** CWCB and CPW Staff

### 6.2. State Water Rights and Alignment

**Objective:** Indicate how the State of Colorado is utilizing its water rights to the best benefit of the state, in accordance with the CWP water values and goals.

**Potential Approach:** Section 6.2 will summarize how Colorado's state agencies are aligning their water rights to meet the water values and goals of Colorado's Water Plan. This section will include recommendations on how to move forward any critical water projects and methods that have not been achieved by the time the water plan is published. Specifically, water rights should be aligned to have multiple benefits, for instance to agriculture and the environment. Water sharing agreements could also be explored. Water rights and potential water projects should be reviewed so that they can best meet the

nonconsumptive and consumptive measurable objectives in the BIPs. Model examples that, such as the Rio Grande Cooperative Projects, will be described.

**Supporting Information:** Instream flows, Colorado Parks and Wildlife water rights database, State Land Board water rights documents and recommendations, feedback from various state agencies that have water rights.

**Staff Support:** CWCB, EDO, and CPW Staff

### 6.3. Alignment of other State Policies and Resources

**Objective:** To ensure that state policies and procedures across agencies are aligned.

**Potential Approach:** This section allows state agencies to examine policies and resources related to water at a high level. The section will summarize how the State of Colorado has aligned its policies and resources to meet the water values and goals of the CWP based off interagency meetings and information. For instance, the instream flows have been used as a way to align CPW interests with CWCB's instream flow program.

**Supporting Information:** Relevant policies from state agencies, Feedback from state agencies with water related policies.

**Staff Support:** CWCB Staff, EDO Staff, Attorney General's office, DWR, Colorado Parks and Wildlife, Colorado Department of Health and Environment, etc.

## 7. Outreach and Public Engagement

**Objective:** To document outreach efforts statewide and at the basin level and explain how the public was engaged throughout the planning process.

**Potential Approach:** This section will pull from the Basin Implementation Plans Section 4.1 Education, Outreach, and Participation in order to summarize outreach and public engagement efforts at the local level. It will also summarize statewide efforts to increase broad participation and generate input.

**Supporting Information:** Public Education, Participation, and Outreach (PEPO) Workgroup documentation, Basin Implementation Plans Section 4.1 Education, Outreach and Participation, CWCB Outreach and Communications Plan

**Staff Support:** CWCB Staff, PEPO Education Liaisons, CFWE Staff

## 8. Legislative Recommendations to Assist Fully Implementing the CWP

**Objective:** To highlight recent legislative accomplishments and show grassroots support for any additional legislative action that is needed.

**Potential Approach:** This section should pull from the No/Low Regrets Action Plan's legislative recommendations and summary. It will discuss recent legislation in support of CWP water values and goals. In addition, it will highlight the level of support for new legislative concepts and from where the concepts emerged. Every recommendation should come from BRT, IBCC, and stakeholder involvement.

**Supporting Information:** No/Low Regrets Document, Basin Implementation Plans, BRT agriculture policy document, information from the Interim Water Committee, Colorado Water Congress, and the Colorado Water Bar

**Staff Support:** CWCB Staff, EDO Staff

## 9. Process for Plan Update

**Objective:** Indicate that the CWP is a living document that will need periodic updates.

**Potential Approach:** Write a brief section describing the process for and timing of future updates.

**Supporting Information:** Executive Order, CWP presentations

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## 2. INITIAL DRAFT Overview of Each Basin

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### 2.1. Introduction

**NOTE:** This draft section will be modified and supplemented upon receipt of the draft Basin Implementation Plans from the Basin Roundtables and additional work completed by the IBCC.

The state of Colorado provides a remarkably diverse and varied landscape for citizens and visitors: from the plains in the east, to the rugged peaks of the Continental Divide, and the mesas and vineyards of the western slope. With such a wide variety of terrain comes an equally distinctive array of opportunity. The Headwaters State is known worldwide as a vacation destination, a rich source of natural resources, an agricultural powerhouse, and a great place to call home.

In planning for the future of Colorado, and the water supply necessary to support the plethora of opportunities available, it is important to understand the distinct needs and issues facing these different areas of the state. Eight major river basins have literally and figuratively formed the state, and know very different histories and current challenges.

In this section of Colorado's Water Plan, the eight basins will be examined in the context of the larger river systems which they form. The landscape of each will be described, along with some historical context, and current issues facing that particular area. By understanding each basin's particular makeup: of agricultural production, recreational opportunities, increasing urbanization in municipal and metropolitan areas, and the factors which make that basin unique; a greater understanding of how to move forward can begin.

### 2.2. Arkansas Basin

The Arkansas River begins in the central mountains of the state near Leadville, at an elevation of more than 14,000 feet. It travels eastward through the southeastern part of Colorado toward the Kansas border, dropping over 10,000 feet to an elevation of 3,340 feet at the Colorado- Kansas state line. Several tributaries flow from the high southern mountains toward the mainstem of the Arkansas, and drainage from the higher plains to the north also contribute to the flows. The Arkansas River Basin is spatially the largest river basin in Colorado, covering slightly less than one-third of the state's land area (28,268 square miles or 27 percent of the state's total surface area).

Grassland and forest cover approximately 67 percent and 13 percent of the basin, respectively. Over 20 percent of the land is publicly owned. A large amount of the grassland is devoted to agriculture with one-third of agricultural lands benefiting from irrigation. Increasing urbanization

is occurring throughout portions of Arkansas River Basin. Over the last few years persistent drought has impacted the basin heavily.

The Arkansas River Compact of 1948 apportions the waters of the Arkansas River between Colorado and Kansas, while providing for the operation of John Martin Reservoir. The Compact is “not intended to impede or prevent future beneficial development... as well as the improved or prolonged functioning of existing works: Provided, that the waters of the Arkansas river... shall not be materially depleted in usable quantity or availability...” (Article IV, para. D.). The primary tool for administering the Arkansas River Compact is the 1980 Operating Principles, which provide for storage accounts in John Martin Reservoir and the release of water from those accounts for Colorado and Kansas water users.



*Arkansas River*

Colorado and Kansas have litigated claims concerning Arkansas River water since the early 20th century, which led to the negotiation of the Compact. In 1995, Colorado was found to have depleted stateline flows in violation of the Compact through the use of tributary groundwater. As a result, the Colorado State Engineer promulgated well administration rules to bring Colorado into compliance with the compact, and Colorado compensated Kansas for damage claims (approximately \$34 million). Recently, the State Engineer also promulgated irrigation efficiency rules, which require augmentation for any upgrades to water delivery systems, such as drip irrigation or sprinkler systems.

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

- Arkansas River Compact requirements, existing uses and water rights result in little to no water availability for new uses. All new uses, and many irrigation efficiency improvements, require augmentation.
- Growth in the headwaters region will present challenges in securing augmentation water for new demands.
- Concerns over agricultural transfers and its impact on rural economies are significant in the lower portion of the basin downstream of Pueblo Reservoir.
- Recreational in-channel diversions or water rights for recreation will have an impact on the development of augmentation plans for agricultural transfers. The Arkansas River has been called the “most rafted river in the world,” but those recreational flows could be threatened unless there is thoughtful collaboration on water resources.
- Concern over water quality and suitable drinking water exist in the lower basin.
- Possible federal listing of the Arkansas Darter fish as a threatened or endangered species could affect water management in the basin.



- The success of three major projects—the Southern Delivery System, the Preferred Storage Option Plan, and the Arkansas Valley Conduit—are key to meeting future water needs
- Replacement of existing municipal supplies, plus growth in urban areas will result in an increase in the demand for municipal water supplies.

### 2.3. 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).

### 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



Colorado River

canyons and gentler terrain, as the river flows along the Interstate 70 corridor towards Grand Junction and the Utah border.

The snowpack in the elevations above 9,000 feet is the important water source for human use, on both sides of the Continental Divide in Colorado, as well as compliance with legal obligations: as much as 70 percent of the river flows out of state.

A substantial portion of the basin is composed 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, timber harvest, and gas drilling are the leading uses of the federal lands. Active and inactive mines can be found within the basin. 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 as follows:

- 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.

### 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 experiences more than 9,500 feet of elevation change.

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.



Gunnison River

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.
- 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.

### 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 Park 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.

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. The Steamboat Springs area, featuring a destination ski resort, is likely to experience continued and rapid population growth.



*Yampa River*

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

### **Dolores River, San Juan River, and San Miguel River Basins**

The San Juan River, Dolores 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. What is also known as the Southwest Basin is actually a series of nine sub-basins seven of which flow out of State before they join the San Juan River in New Mexico or the Colorado River in Utah. The water history of the

Southwest Basin has been shaped by the Colorado River Compact issues, the Colorado Ute Indian Water Rights Settlement and a number of U.S. Bureau of Reclamation storage projects.

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



Dolores River

- 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 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. A big factor that has created these pressures is the San Juan Chama Transbasin Diversion that pulls water out of the Rio Blanco, a tributary to the Upper San Juan River, and diverts it into the Chama River in New Mexico.
- 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.
- The Dolores Project was integral to the Ute Mountain Ute portion of the Indian Water Rights Settlement. Construction of the Dolores Project was allowed to proceed in 1977, by order of the Secretary of Interior, because it provided potable water for the first time to the Ute Mountain Ute community of Towaoc and irrigation water for a highly productive 7,600 acre Tribal farm in exchange for subordinating senior Tribal water rights claims that could have dried up the Mancos River Valley.
- Tribal water allocations out of the Animas-La Plata Project component of the Settlement provided the Tribes with an M&I water source to supply and augment future depletions of the San Juan River system which are constrained by the San Juan Recovery Program for Endangered Native Fish. The ALP also provided the City of Durango and surrounding areas with a long term M&I supply.
- 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." The San Juan Recovery Program resulted in the elimination of the irrigation component of the Animas-La Plata Project. The elimination of the ALP irrigation component, combined with the 1992 La Plata compact created a persistent irrigation and M&I gap in the La Plata drainage.

- The Southwest Basin also includes numerous instream flow segments. Instream flows have served as a tool to balance valued agricultural uses with in-stream water to support recreational and environmental values, all of which combine to support the economic and aesthetic values that drive settlement and commerce in the Southwest Basin.
- The Southwest Basin is also characterized by extensive US Forest Service and BLM land ownership. Most Southwest Basin headwaters originate on Federal Land. These federal agencies have worked with the CWCB Instream Flow Program to secure substantial flow protection at high elevations throughout the Basin. As stream flow protections have increasingly focused on lower elevation streams, below stored water and communities, instream flow appropriations have become more complex and challenging.

Agriculture and ranching prevail in the lower elevations of La Plata, Montezuma, 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 along with flat water recreation on the region's many reservoirs.

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 oil and gas, mining and agriculture to tourism/recreation, and a retirement/second home area.
- The Cortez and Dove Creek area remains strongly agricultural, supplemented by energy production, but is also seeing 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 in the western part of the county.

Overall, water supply is available in the Southwest Basin as a result of numerous storage projects built primarily to supply irrigation water. Several of these storage projects have been able to allocate or carve out small amounts of M&I water to supply domestic growth. Resulting revenues from M&I sales are being re-invested in delivery system efficiencies that will yield the water necessary to meet future M&I needs without diminishing agricultural deliveries. The remaining



challenge is the development of sufficient infrastructure to get M&I water to where it is needed. There is also a need for new storage to meet long term supply needs in the Pagosa Springs area.

The Southwest Basin Roundtable takes very seriously the need to reconcile a strong commitment to the continuation of a vibrant agricultural sector with healthy streams to support environmental and recreational values. In keeping with this philosophy the Southwest Basin is organizing IPPs by sub-basin with one IPP list that addresses agricultural, municipal, industrial, environmental and recreational values and needs. This approach is intended to reveal opportunities for multi-benefit projects to address water supply gaps.

## 2.4. South Platte River, Republican River, and North Platte River Basins

### South Platte River Basin

The South Platte River Basin is the most populous basin in the State. The South Platte Basin population is expected to double from approximately 3.5 million people to 6 million people by 2050. (approximately 85% of Colorado's population resides in the South Platte Basin), and the Front Range area of the South Platte Basin is Colorado's economic and social engine. The South Platte River Basin also has the greatest concentration of irrigated agricultural lands in Colorado.

The topographic characteristics of the South Platte River Basin are diverse. Its waters originate in the mountain streams along the Continental Divide in the northern portion of the Front Range. The river emerges from the mountains southwest of Denver and moves north through the Denver area where numerous tributaries such as Cherry Creek, Clear Creek, Coal Creek, Boulder Creek, St. Vrain Creek, Big Thompson River, and Cache La Poudre River join the South Platte; then northeast across the High Plains. The western portions of the basin and its montane and subalpine areas are mostly forested, while the High Plains region is mainly grassland and planted/cultivated land. Approximately one-third of the South Platte Basin land area is publicly owned, with the majority of these lands in the forested mountains. The South Platte River crosses the Colorado-Nebraska state line near Julesburg and merges with the North Platte River in southwestern Nebraska to form the Platte River.



South Platte River

The hydrology of the South Platte Basin is highly variable, with an approximate average annual native flow volume of 1.4 million acre-feet. Water supply in the South Platte Basin is supplemented by approximately 400,000 acre feet of trans-basin diversions from the Colorado River Basin and by approximately 100,000 acre feet from the Arkansas, North Platte and Laramie River Basins. In addition, over 30,000 acre feet are pumped from non-tributary groundwater aquifers to supplement supplies. However, surface water diversions in the South Platte Basin average approximately 4.0 million acre-feet annually, with an additional average annual 500,000 acre-feet of groundwater withdrawals. The amount of diversion in excess of native flow highlights the return

flow-dependent nature of the basin's hydrology, and the basin-wide efficient use and reuse of water supplies. On average, only 400,000 acre feet leave the Basin.

The South Platte River Compact of 1923 establishes a legal framework within which the water of the South Platte River is allocated to water users in both Colorado and Nebraska. Specifically, the compact requires the Colorado State Engineer to curtail diversions east of the Washington County line that are junior to June 14, 1897 when flow in the river is less than 120 cubic feet per second from April 1 through October 15.

The Platte River Recovery Implementation Program (PRRIP) and the Upper Colorado River Endangered Fish Recovery Program provide limited Endangered Species Act (ESA) coverage for Program participants. Participation in these programs protects existing uses and allows continued water development.

The South Platte Basin is Colorado's most economically diverse basin. Urban sector business and industries within the South Platte Basin provide for a majority of the state's overall economy. Agricultural production is the highest among basins across the State of Colorado. The Basin also supports a wide range of ecological systems and important water-dependent ecological and recreational attributes. Coloradoans and tourists regularly take advantage of the South Platte's recreational opportunities provided by the basin's many environmental features. Willing water transfers from the agricultural sector to the municipal/industrial (M&I) sector has proven reliable, though is viewed as unsustainable if the South Platte, and the State of Colorado, is to continue to have a high quality of life and diverse economy as the population continues to grow. The challenge of preserving the M&I, agricultural, and recreational economies, as well as preserving the basin's environmental features, makes water management in the South Platte Basin especially complex. These complexities include:

- Agriculture is the dominant water use in the Basin, accounting for 85% of total water diversions. Conversion of agricultural water to M&I uses ("Agricultural Transfers") will continue to be a significant option for meeting future M&I needs, especially in those areas where agricultural land will be urbanized. These Agricultural Transfers are likely to have negative impacts to rural communities, and to open spaces, wetlands and recreation that are tied to irrigated lands. Loss of irrigated agricultural lands will negatively impact the local economy and the State's economy, as well as the State's food security.
- Competition for additional M&I water supplies is significant, and in some cases, multiple M&I suppliers have identified the same water supplies as future water supplies. Competition increases the costs to M&I customers, and competition for the same water supplies could result in some M&I suppliers not having enough water in the future.
- A substantial amount of the basin's water supply originates in the Colorado River Basin. As such, compliance with the Colorado River Compact, and avoiding a compact curtailment, is critical to the South Platte Basin.

- Preserving options for development of additional supplies from the Colorado River Basin is critical to effectively planning for future water supplies. If additional Colorado River supplies are not available for future use, the “default” will include additional Agricultural Transfers, greatly increasing the negative impacts of Agricultural Transfers, as identified above.
- 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. Strong economic and population growth in these counties coupled with the lack of surface water supplies, led the need to develop renewable surface water supplies and additional water storage for the South Metro area.
- Completion of planned storage projects, including Glade Reservoir, Halligan and Seaman Reservoir Enlargements, Gross Reservoir Enlargement, and the Chatfield Reallocation Project, is critical to meeting future water supply needs. These projects will supply much-needed water to project participants, and failure to complete these projects will result in water shortages, additional Agricultural Transfers, or additional water diversions from the Colorado River Basin.
- Conjunctive use of surface water and alluvial groundwater, and use of alluvial aquifers for storage, offer opportunities to expand sustainable water use. Aquifer storage is generally considered to have lesser environmental impacts, and water stored in alluvial aquifers is not subject to evaporation losses. Aquifer storage poses control and administrative issues that will need to be addressed to ensure that other water rights are not injured.
- Water quality will continue to be a challenge as more water is diverted for use, and point and non-point sources discharge to the Basin’s waters. Salt content of soil and water in the South Platte River valley, and sedimentation/erosion in parts of the basin, are likely to continue to increase over time, which will negatively impact the ability to use the water for agricultural and M&I purposes. Technological solutions are expensive and non-sustainable because of high energy demands and issues associated with disposal of concentrated treatment residuals.
- The South Platte Basin is leading the State with regard to M&I water use efficiency. Efficient use of the basin’s resources, through water reuse and conservation, is a critical component of meeting future water needs. Increased M&I water use efficiency will reduce water availability for agriculture, ecological resources, and other uses, as M&I return flows diminish.
- The urban environment is an important component of quality of life for many South Platte Basin residents. Judgments about the value of the urban environment, including the need to provide water for irrigated landscape, make discussions about water supply development needs all the more difficult.
- The environmental and recreational features within the basin including amenities such as mountain streams and rivers (fishing, rafting, etc.), city green ways, flatwater reservoirs,



wetlands and open space, are extremely important to Colorado's tourism economy and resident's quality of life.

### Republican River Basin

The Republican River Basin in Colorado is located on the Northeastern High Plains. The headwaters of the North Fork and South Fork of the Republican River, and the Arikaree River, originate in the Northeastern High Plains of Colorado near Wray, Cope and Seibert, respectively. The Republican River is formed by the confluence of the North Fork of the Republican River and the Arikaree River just north of Haigler Nebraska, with the South Fork of the Republican joining just southeast of Benkelman, Nebraska. Other major drainages within the Republican River Basin include Frenchman Creek, Beaver Creek and Red Willow Creek. The Republican River Basin in Colorado encompasses approximately 7,760 square miles, which represents thirty-one percent of the total Republican River Basin located in Colorado, Nebraska and Kansas.



*Republican River*

The topographic characteristics of the Republican River Basin are similar to the High Plains region of the South Platte River Basin, consisting mainly of grassland and planted/ cultivated land. The Republican River Basin in Colorado is underlain by the High Plains or Ogallala aquifer, which is one of the largest water bodies in the United States, and extends from South Dakota to Texas.

The Republican River Compact of 1942 (Compact) apportions the waters of the Republican River Basin between Colorado, Nebraska and Kansas. The Compact defined the Republican Basin for purposes of the Compact as "all the area in Colorado, Kansas, and Nebraska, which is naturally drained by the Republican River, and its tributaries, to its junction with the Smoky Hill River in Kansas". It also states that beneficial consumptive use is the basis and principle upon which the allocations made in the Compact are predicated.

The Compact quantified the average virgin water supply (defined as the water supply that is "undepleted by the activities of man") originating in the Republican River Basin upstream of the Nebraska-Kansas state line as 478,900 acre-feet per year. Based on this quantification, the Compact makes allocations for beneficial consumptive use in each State. Colorado was allocated 54,100 acre-feet, which was further allocated as follows: North Fork of the Republican River drainage basin – 10,000 acre-feet; Arikaree River drainage basin – 15,400 acre-feet; South Fork of the Republican River drainage basin – 25,400 acre-feet; Beaver Creek drainage basin – 3,300 acre-feet. In addition, Colorado is allocated the entire water supply of the Frenchman Creek and Red Willow Creek drainage basins in Colorado.

In 2004 the Republican River Water Conservation District (RRWCD) was established for the purpose of cooperating with and assisting the State of Colorado with Compact compliance. The RRWCD recently completed the construction of the Republican River Compliance Pipeline to assist in compact compliance.

Administration of surface water in the Republican River Basin is separate from ground water administration. The Water Courts have judicial authority regarding surface water rights, whereas the Colorado Ground Water Commission (CGWC) has regulatory and an adjudicatory authority regarding the management and control of Designated Ground Water. The CGWC is responsible for adjudicating groundwater rights and issuing large capacity well permits. Much of the ground water located within the basin has been authorized as being in a Designated Ground Water Basin. The CGWC has established eight designated basins and 13 Ground Water Management Districts (GWMDs) within such basins. Ground Water Management Districts are local districts that have additional administrative authority. Much of the Republican River Basin lies within the Northern High Plains Ground Water Management District.

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

- Republican River Compact compliance.
- Depletions to the Ogallala Aquifer continue to reduce the amount of readily available water supplies for the agricultural economy in the Basin; in some cases presenting a feasibility issue of providing adequate water supplies for crop irrigation or in some cases no water supply.
- Continued detailed coordination and communication between multiple water rights and administrative authorities (CGWC, DWR, GWMD, Water Court, etc.).

### North Platte River Basin

The North Platte River Basin, also known as North Park, is a high altitude valley covering about 2,000 square miles in north central Colorado, adjacent to Wyoming. The basin includes all of Jackson County and the small portion of Larimer County that contains the Larimie River Watershed.



***North Platte River***

Both the North Platte and Laramie Rivers flow north into Wyoming, and are subject to use limitations stemming from Supreme Court decrees. Water use in the basin is dominated by irrigated pasture grass related to ranching operations, with over 400 irrigation ditches diverting from the mainstem, and the numerous tributary streams throughout the basin. Total irrigated acreage in the basin, based on 2001 estimates, is approximately 116,000 acres. A portion of North Platte water is exported to the

Front Range via the Michigan Ditch and Cameron Pass Ditch, which combined divert approximately 4,500 acre-feet per year out of the basin. The basin also contains a major wildlife refuge along with numerous public lands and the recreational opportunities they allow.

The U.S. Supreme Court decisions which govern interstate water use in the basin include:

- **Nebraska v. Wyoming, 325 U.S. 589 (1945)** – Equitably apportions water in the North Platte River between Colorado, Nebraska, and Wyoming. Limits total irrigation in Jackson County to 145,000 acres and 17,000 acre-feet of annual irrigation season reservoir storage, Limits exports from the basin within Colorado to 60,000 acre-feet over 10 years.
- **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 to 39,750 acre-feet per year, divided among specific water facilities.

Water use in the basin is also governed by the Three State Agreement of the Platte River Recovery (PRRIP) Implementation Program related to Endangered Species recovery efforts on the Platte River in Central Nebraska. The agreement employs a “one-bucket concept” for the North Platte Basin of Colorado that currently limits water use in the basin to depletions associated with the irrigation of up to 134,467 acres, while allowing for flexibility in the type water use.

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

- Maintaining compliance with the equitable apportionment decrees on the North Platte and Laramie Rivers that quantify the amount of available water and lands that can be irrigated.
- Increasing economic development and diversification through strategic water use and development.
- Continuing to restore, maintain, and modernize critical water infrastructure to preserve current uses and increase efficiencies.
- Gaining knowledge of the basin's consumptive uses and high-altitude crop coefficients.
- Understanding and using the North Platte Decision Support System to quantify historical consumptive use, agricultural shortages, water availability and water storage opportunities.
- Quantification and strategic development of available unappropriated waters within the basin.
- Successfully resolving endangered species issues on the Platte River in Central Nebraska through the PRRIP in a manner that does not put pressure on water users to reduce existing uses.
- Maintaining healthy rivers through the strategic implementation of projects that meet prioritized nonconsumptive needs.
- Promoting water rights protection and management through improved streamflow gaging data.
- Enhancing forest health and management efforts for wildfire protection and beetle kill impacts.

## 2.5. 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 7,700 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, and precipitation of less than 8 inches per year.



*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 operation in the central portion of the basin, which constitutes the second largest shipper of fresh potatoes in the United States. Areas in the valley which 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 states during that year. The Rio Grande 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.
- Residential growth, primarily in the form of second and vacation homes, 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.

## 2.6. Conclusion

We are connected statewide. West Slope ranchers finish their cattle on the East Slope, have them slaughtered and distributed there. The East Slope buys and eats West Slope peaches and wine. The West Slope has amazing recreational opportunities, and Front Range families support West Slope economies by being the largest user of these recreational opportunities and owning many of the second homes. At the same time, there are transmountain diversions that bring Colorado River water to East Slope communities. The Front Range is where the majority of the economic activity takes place, and therefore where the most of taxes are collected. This in turn, is distributed throughout the state, including rural communities.

As demonstrated in this brief overview, each basin features its own remarkable opportunities, as well as distinct challenges that make planning for Colorado's water future difficult. Solutions will impact not only one basin, but basins throughout Colorado. Though each area has unique issues and concerns, our water future is connected statewide. Every basin needs to grapple with drought, interstate compacts and agreements, growing populations, important environmental and recreational values, and sustaining agriculture. Because of so many shared interests, we need to continue working together to solve our water supply gaps so that the Colorado we value can continue to flourish.

Colorado's Water Plan - Input Received  
between 1/16/14 and 3/3/2014

Date	Input Provided By	Method of Input Submission	Related Chapters of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Responses and Recommendations
1/24/14 - 2/11/14	422 emails generated from individuals who submitted a form letter online through the Environmental Defense Fund and Conservation Colorado	Email to cewaterplan@state.co.us	3; 5.6; 5.9	Form Letter Base Text: Dear CWCB, I am writing to support your efforts to create the first ever statewide water plan. Thank you for reiterating the importance of the plan, and water conservation, in your recent State of the State address. As our state's communities grow, our rivers are becoming increasingly strained. That means we need to change the status quo. We need our rivers to be clean and flowing - to support our fish and wildlife, tourism, recreation, and future generations. Colorado's Water Plan has the potential to chart an innovative path forward for our state. I urge you to stand up for measures to protect and restore our rivers, push for conservation, and for cities to live within their means. We need to help agriculture modernize and increase efficiency, and stop looking to the West Slope to solve our water issues. We need to maintain working landscapes, support growing communities, and protect river health. Please ensure that Colorado's Water Plan uses our state's ingenuity to "be prepared" for our water future."	A separate attachment was created for the Board packet including all 422 emails	<b>Staff response:</b> The CWCB and the Basin Roundtables will be working to support conservation, environment, and recreation in the Basin Implementation Plans and draft of Colorado's Water Plan. In addition, the CWCB has granted and loaned millions of dollars toward projects related to agricultural efficiency and will continue to do so. Colorado's Water Plan and the technical work that supports it includes three growth scenarios: low-growth, mid-growth, high-growth. As water planners, Colorado must prepare for any of these future possibilities as we do not have control over the state's economy and how many people are born or choose to move here. While some communities choose to limit growth, doing so on a broad statewide scale is untenable and unconstitutional. The CWCB is working with each basin on their Basin Implementation Plan and will continue to encourage all interested parties to do the same.
1/18/14	Sinjin Eberle, Colorado Trout Unlimited	Online General Input Webform at www.coloradowaterplan.com	5.6	Webform comment as follows: "Please consider conservation first, before any further technical/engineering efforts are initiated. The health of Colorado's rivers is vitally important to the future of our state."	N/A	<b>Staff response:</b> The Basin Implementation Plans and Colorado's Water Plan will incorporate conservation as a critical component to helping meet future water needs. Initial work indicates that conservation will likely be able to meet the needs of an additional one million people. This is not enough to meet all of Colorado's future water demand, so Colorado's Water Plan will also encourage balanced multi-purpose projects to meet our future water needs.
1/28/14	Southwestern Water Conservation District and the Southwest Basin Roundtable	Email to Jacob Bornstein, forwarded to cewaterplan@state.co.us.	5.5; 5.6; 5.7; 5.8; 5.11	Text from email: "Please find attached the Southwest Colorado Statement of Importance for Colorado's Water Plan. The Statement is the result of a joint collaborative effort by the Southwestern Water Conservation District and the Southwest Basins Roundtable, and has been adopted by both entities. Concepts in this document will be used in the development of the Basin Implementation Plan for southwest Colorado, and should be incorporated into Colorado's Water Plan. Feel free to circulate this Statement as desired."	PDF Version of the Southwest Colorado Statement of Importance for Colorado's Water Plan	<b>Staff response:</b> Most of the comments included in the Southwest Colorado Statement of Importance for Colorado's Water Plan, including the bullets listed under the "principles" section, are important components guiding Colorado's Water Plan, which will be a living document.
1/28/14	Andrew Hutchinson, Dolores River boating Advocates	Online General Input Webform at www.coloradowaterplan.com	5.9	Webform comment as follows: "We need to take a serious look at re-watering the dried-up, Lower Dolores River, below McPhee Dam. Fish and wildlife are at the top of the list, and water is over-allocated for agriculture since the Project started. A balance is feasible and in order."	N/A	<b>Staff response:</b> CWCB staff will pass this comment on to the Southwest Basin Roundtable. The CWCB has and will continue to provide resources to help resolve the complex issues on the Dolores River.
2/2/14	Jeff Crane, General Public	Online General Input Webform at www.coloradowaterplan.com	3, 5.11	Webform comment as follows: "Accelerated growth and a limited water supply has intensified a competition for water throughout Colorado. The Statewide Water Supply Initiative concluded in 2004 that there will be a significant gap between supply and demand for water throughout the State by 2030. Eighty percent of the water is on the West Slope and eighty percent of the population is on the Front Range, but there is a limit to what can be diverted to the Front Range. I believe we have exceeded that limit. The 12 major transbasin diversions that currently move water from west to east average over 507,000 acre-feet per year. Are we, as a State, willing to sacrifice environmental and recreational uses for water so that Denver can water their lawns?" Water conservation should be the first and only tool for meeting that gap. The Front Range has several conservation strategies in place but it is just the start. A tiered pricing system for water on the Front Range should be accelerated to encourage water savings. This could be implemented in a manner that does not significantly affect average households but targets large users of water. It is unconscionable that water is cheaper in Denver than it is in Minneapolis, land of 10,000 lakes. We, as a society, need to pay for the true cost of water. The Front Range uses the West Slope as their playground. The continued loss of water to the Front Range will have a substantial impact on the State's economy. The State's instream flow program should be strengthened and funded to protect our water heritage and recreational economy without injury to agriculture and within the Prior Appropriation Doctrine. Changes could also be made to Colorado Water Law that encourages water conservation. Currently, the law discourages conservation. Ditch companies must divert their full decrees whether they use it or not under risk of abandonment. It is difficult for agriculture to conserve water in a meaningful way and leave the savings in the river. It is also quite disheartening to hear that the Northern Water Conservancy District has sales on their "excess" water. If there is truly excess water it should remain in the basin of origin. Conservation measures can surely make a difference and we can learn from countries like Israel and Australia where arid environments similar to Colorado's have forced the initiation of creative and innovative measures to save water. We could also learn from California where the greatest use of energy comes in the form of moving water. We don't need more pump-back projects or expensive diversions from the Green or Mississippi Rivers. Colorado should become an innovator in conservation and be a leader in an industry that is only going to generate more demand in the future.	N/A	<b>Staff response:</b> Colorado's Water Plan and the technical work that supports it includes three growth scenarios: low-growth, mid-growth, high-growth. As water planners, Colorado must prepare for any of these future possibilities as we do not have control over the state's economy and how many people are born or choose to move here. While some communities choose to limit growth, doing so on a broad statewide scale is untenable and unconstitutional. Consumptive and nonconsumptive water uses are not always at direct odds and Colorado's water Plan will highlight multi-purpose opportunities in addition to nonconsumptive strategies.
2/3/14	Tim Rowse, Community Group in Yampa Valley, Steamboat	Online General Input Webform at www.coloradowaterplan.com	4; 5.1	Webform comment as follows: "Hello, I'm a member of the Community Alliance of the Yampa Valley (CAYV). Just this morning I was reading an article in the Sunday NY Times about the severe drought conditions in California. I also received an email from CAYV regarding the regional water roundtables. It occurred to me that, while pursuing a more comprehensive water plan is a good idea, the water issue is really a sub issue of climate change. So, yes, in the near term we must address water usage, but if we don't address climate change, we'll be doing this again in the near future as climate models are affected. Governor, Why not make Colorado a poster child for addressing climate change and truly set an example for the nation of what's possible? In my opinion the situation is drastic enough that, nationally, we need an effort to reduce climate change with the equivalent resources as the energy, money and time allocated to the last two US war efforts in Iraq and Afghanistan. I'll stay tuned from here and hope this doesn't fall into some database somewhere without consideration. Thank You!" Tim Rowse	N/A	<b>Staff response:</b> Climate change could have a serious effect on Colorado's water supplies, which is why Colorado's Water Plan is engaged in scenario planning. While temperature's impact on demands are understood, hydroclocial impacts are not. Since Colorado's water planners cannot necessarily impact the global climate change situation, Colorado's Water Plan is not focused on mitigating climate change. Other agencies within Colorado's state government consider climate mitigation strategies.
2/3/14	Nathan Fey	Online General Input Webform at www.coloradowaterplan.com	5.5; 5.9	Webform comment as follows: "Eagerly awaiting the guided feedback process for recreation and environment. If Feb 28th is the deadline for comments, we,are less than a month away... It is critically important that both commercial and non-commercial rec enthusiasts have sufficient time to provide input. I hope these interest are not, once again, getting the short end of the stick."	N/A	<b>Staff response:</b> Several guides for public input including one designed for environmental and recreation interest groups are available at coloradowaterplan.com. There is no firm deadline for submitting input for Colorado's Water Plan. However, the CWCB does encourage groups to engage with their respective Roundtable(s) and to inquire regarding key dates for completion of sections within the draft Basin Implementation Plans, which are due to the CWCB Board at the end of July, 2014.

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2/4/14	Cary Baird, Community Engagement Specialist, Rocky Mountain Region, Chevron	Email to cewaterplan@state.co.us	3	Webform comment as follows: "Last night, I heard Louis Meyer, President of SGM, talk about the Colorado Water Plan at the CMU Water Center. I enjoyed his presentation very much. I believe I heard him say that the water plan will take into account water needs of industry, including energy development. Is there a specific process or time period by which the energy industry should comment or provide feedback to the plan? Thanks very much."	N/A	<b>Staff response:</b> CWCB staff will be in touch with Cary Baird to suggest which Roundtables Chevron should communicate with.
2/5/14	John McKenzie, Ditch and Reservoir Company Alliance (DARCA)	Online General Input Webform at www.coloradowaterplan.com	5.5; 5.6.2; 5.7	Webform comment as follows: "DARCA would like to play an active role in providing input into the State Water Plan."	N/A	<b>Staff response:</b> CWCB staff engaged with DARCA at their recent meeting on February 26, 2014. In addition, DARCA is encouraged to work with the Basin Roundtables and the CWCB moving forward.
2/6/14	Michael Murphy, Town of Lake City	Online General Input Webform at www.coloradowaterplan.com	1	Webform comment as follows: "Water is the life blood of our communities, not only for our drinking water but for the economic well being of this high mountain town. Please keep all Colorado water here at home."	N/A	<b>Staff response:</b> This comment is consistent with Colorado's water values as expressed in Governor Hickenlooper's Executive Order D2013-005 and will be incorporated into Colorado's Water Plan.
2/7/14	John Sauter	Online General Input Webform at www.coloradowaterplan.com	5.8	Webform comment as follows: "I am a board member of the Lost Creek Ground Water Management District. I would like to offer any assistance I can with the goal of using our aquifer for storage, while ensuring that the quality and stability are preserved, or improved."	N/A	<b>Staff response:</b> CWCB staff will pass this comment on to the South Platte Basin Roundtable.
2/18/14	Gary Wockner, Save the Poudre	Email to cewaterplan@state.co.us	5	Text from email: "Below is a press release that is going out in a few minutes. Please accept <a href="#">this letter</a> -- signed by 18 Colorado conservation groups -- as input into the Colorado Water Plan. This letter also comes in a <a href="#">video version</a> , <a href="#">posted here</a> . This press release is also <a href="#">posted here</a> ."	PRESS RELEASE: Save The Poudre Requests Fort Collins Meeting for Controversial Colorado Water Plan	<b>Staff response:</b> Regarding the request for a Fort Collins meeting: IBCC Director John Stulp along with several other guest speakers participated in a public community forum titled "Developing Colorado's Water Plan: Ensuring Public Interests Have a Voice in Planning Colorado's Water Future" on September 28, 2013 in Fort Collins. The forum, hosted by Senator John Kefalas and Representatives Randy Fischer and Joann Ginal, centered around public participation regarding Colorado's Water Plan and attendees to this forum included several Save the Poudre representatives. The CWCB has offered any other state legislators assistance for hosting additional town hall meetings and has specifically extended this offer to Representative Fischer. With regard to meetings related to the South Platte Basin Implementation Plan, the South Platte Basin Roundtable is hosting 4 public meetings outside of the regular monthly Roundtable meetings and more frequent subcommittee meetings. When planning those meetings, the Roundtable determined that hosting a public meeting in Longmont would reach a broader audience than Fort Collins. Given several factors including planning time, budget, and the geographic size of the basin, the chosen meeting locations were considered adequate by the South Platte Basin Roundtable. CWCB staff will encourage the South Platte Basin Roundtable to consider specific outreach in Fort Collins in the future. Fort Collins community members were invited to attend the March 5, 2014 meeting in Longmont, and all of the regular scheduled South Platte Basin Roundtable meetings. Regarding the comments related to healthy alternative water supply: Colorado's Water Plan and the Basin Implementation Plans will incorporate conservation and reuse. Regarding the comments related to "no new diversions": The Basin Implementation Plans and Colorado's Water Plan will incorporate conservation as a critical component to helping meet future water needs. Initial work indicates that conservation will likely be able to meet the needs of an additional one million people. This is not enough to meet all of Colorado's future water demand, so Colorado's Water Plan will also encourage solutions that balance healthy watersheds and the environment while meeting Colorado's future municipal water needs. Regarding the comments related to river restoration: The CWCB is encouraging all of the basins to consider both protection and restoration of Colorado's important stream reaches within their Basin Implementation Plans. The CWCB has and will continue to support technical analyses of Colorado's environmental and recreational needs. These elements from the Basin Implementation Plans will be incorporated into Colorado's Water Plan.
2/19/14	Nancy Stocker, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	5.6	Webform comment as follows: "When I review the projections of how much additional water it will take to meet the needs of the rapidly increasing human population of the Metro Denver area and the rest of the So. Platte River Basin, I am filled with fear and sadness for what we all could lose. It is critical that we protect our rivers, our wetlands, our ecosystems and wildlife, even as we provide the water necessary for human life. We will have to be much more judicious and efficient in our use of water. To do anything less will make our lives poorer economically, recreationally and spiritually. I am astonished to see that it is believed that no area in Colorado could save more than 10% of its current water use through efficiency measures by 2030. As with auto fuel efficiency, most water users will only make dramatic changes when required to or when the price of water is greatly increased all at once. Let us not destroy much of our environment before insisting on great efficiency, much smaller areas of lower water demand turf grass, and more efficient agricultural watering, etc. be used. Last year Denver expected a major drought year. Denver Water begged everyone to conserve. Water demand dropped so precipitously, that Denver Water soon explained that they weren't able to meet their income requirements because their customers had decreased water use so much. This showed that Metro Denver can do it. I encourage you to make reducing water demand a much bigger thrust in the Colorado Water Plan."	N/A	<b>Staff response:</b> The Basin Implementation Plans and Colorado's Water Plan will incorporate conservation as a critical component to helping meet future water needs. Initial work indicates that conservation will likely be able to meet the needs of an additional one million people. This is not enough to meet all of Colorado's future water demand, so Colorado's Water Plan will also encourage solutions that balance healthy watersheds and the environment while meeting Colorado's future municipal water needs.



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2/19/14	Michael Pruznick, General Public	Online General Input Webform at <a href="http://www.coloradowaterplan.com">www.coloradowaterplan.com</a>	5.6	Webform comment as follows: "We don't need more reservoirs. We need residential raw and gray water and water barrels so we can use each gallon of water multiple times. Rain on roof to rain barrel to landscape, no treated water on lawns. Before you can control my use via price you will over-burden too many others. However, if my quantity is limited by rain barrel, then my landscaping will have appropriately drought resistant. Rain on street, hard scape to storm drain to river. River to treatment to potable faucet to gray water. Gray water to toilet to swear to treatment to river. Maybe allow transfer between gray water and rain barrel such that treated water is used at least one before going to landscape. Require lawns to have bush-boarders to catch overflow (except mower access point). Cuts down on wind over the lawn too. Water from top by house, flows down to planter at sidewalk, no need to water planter. No real water rights problems, every filtered gallon will be used twice leaving more in the river that can be captured with rain barrels."	N/A	<b>Staff response:</b> Colorado's Water Plan will not fundamentally change Colorado's water rights system. The Prior Appropriation Doctrine, which is in Colorado's Constitution, typically dictates that rainwater is used by a downstream user. However, the CWCB maintains a rainwater harvesting pilot program to address some of the issues presented in this comment. Conservation and reuse, including gray water, will be strategies considered in Colorado's Water Plan.
2/20/14	Angela Schackel Bordegaray, Sister of Resident in Durango!/New Mexico's State Water Planner	Online General Input Webform at <a href="http://www.coloradowaterplan.com">www.coloradowaterplan.com</a>	General	Webform comment as follows: "I am New Mexico's State (and Regional) Water Planner. I am very interested in Colorado's water planning process. Nice website! So advanced. I appreciate the graphics and interactive aspect. Lots of good information, too. Also, my brother lives in Durango. I visit often. I'd like to know how the water planning process (Basin Roundtable) is playing out there..."	N/A	<b>Staff response:</b> CWCB staff will be in touch with Angela Schackel Bordegaray to share water planning strategies, lessons learned, etc.
2/21/14	Northwest Colorado Council of Governments/ Water Quality Quantity Committee	Email to <a href="mailto:cwaterplan@state.co.us">cwaterplan@state.co.us</a>	General	Text from email: "Hello CWCB water plan folks, On Wednesday, Northwest Colorado Council of Governments/ Water Quality and Quantity Committee (QQ) finalized a white paper regarding the Colorado Water Plan: Response to Perceptions Influencing the Colorado Water Plan. We have also developed a shorter two page summary version of the main points in the paper. The documents are available on the QQ website: <a href="http://www.nwccog.org/index.php/programs/water-qualityquantity-committee/">http://www.nwccog.org/index.php/programs/water-qualityquantity-committee/</a> . We hope this paper will enhance the already productive discussions about the Colorado Water Plan that are ongoing around the state. Please let us know if you have questions. We look forward to continuing to work with you on the Water Plan process."	White paper regarding the Colorado Water Plan: Response to Perceptions Influencing the Colorado Water Plan; and shorter two page summary version of the main points in the paper.	<b>Staff response:</b> Response to sections 1, 2, and 3 of the NWCCOG's white paper: Colorado's Water Plan and the technical work that supports it includes three growth scenarios: low-growth, mid-growth, high-growth. As water planners, Colorado must prepare for any of these future possibilities as we do not have control over the state's economy and how many people are born or choose to move here. While some communities choose to limit growth, doing so on a broad statewide scale is untenable and unconstitutional. Response to section 4 of the NWCCOG's white paper: IBCC members are concerned about West Slope agricultural dry up and the conceptual agreement currently being crafted by the IBCC will likely work to ensure that potential effects to West Slope agriculture will be minimized in the future. Elements of Colorado's Water Plan are consistent with the comment that agricultural needs statewide are important. Response to section 5 of the NWCCOG's white paper: The CWCB through Colorado's Water Plan is engaged in scenario planning which incorporates hydrologic uncertainty in the future. The CWCB will continue to invest significant resources into the potential impacts of climate change on Colorado's water supply. Response to section 6 and 8 of the NWCCOG's white paper: The Basin Implementation Plans and Colorado's Water Plan will incorporate conservation as a critical component to helping meet future water needs. Initial work indicates that conservation will likely be able to meet the needs of an additional one million people. This is not enough to meet all of Colorado's future water demand, so Colorado's Water Plan will also encourage solutions that balance healthy watersheds and the environment while meeting Colorado's future municipal water needs. Scenario planning indicates that a new transmountain diversion may not be needed in the future, however some futures suggest that new transmountain diversions may be a necessary part of Colorado's water supply portfolio. Colorado's Water Plan will not include any specific transmountain water project, but it will discuss how we can preserve the option for one should it be needed. Response to section 7 of the NWCCOG's white paper: The CWCB will incorporate comments regarding permitting and "buy and dry" into draft sections of Colorado's Water Plan as it develops those unwritten sections.
2/24/14	Chris Applegate, General Public	Online General Input Webform at <a href="http://www.coloradowaterplan.com">www.coloradowaterplan.com</a>	5.5; 5.9	Webform comment as follows: "The state of Colorado needs to look at how to balance the needs of all components of those that need to use water. That includes non-consumptive usage. I want to continue enjoying all the beautiful areas of this extraordinary state. If I ever decide to adopt and have a family, I would hope to create some of our most treasured memories in the backcountry or at a local state park, many of which rely on water to maintain its beauty. I also volunteer with children that don't typically have access to the outdoors. I want to continue instilling in them the beauty that this state has and I think it is in harm's way depending on how we allocate the water we have. We need to quantify our non-consumptive needs in order to see the full scope of all of our needs in the state. It is going to be a challenge and it won't be easy, but it is desperately needed. Our mountains are already changing and if there is something we can do to prevent slow the pace or keep them in their current condition, I think we will be able to overcome the negative thoughts that we can't serve both people and nature at the same time."	N/A	<b>Staff response:</b> Meeting Colorado's nonconsumptive needs is a critical aspect of Colorado's Water Plan.
2/24/14	Richard Creswell, General Public	Online General Input Webform at <a href="http://www.coloradowaterplan.com">www.coloradowaterplan.com</a>	6.1	Webform comment as follows: "I'm asking for money to be set aside for studies reflecting hard numbers on how much water will be required to maintain fish and wildlife. Minimum stream flow has already proven insufficient to protect present levels which are already degraded and impoverished. Wildlife is not just an amenity but is as important economically and psychologically as business and energy development.Don't let the death of everything else happen on your watch."	N/A	<b>Staff response:</b> Meeting Colorado's nonconsumptive needs is a critical aspect of Colorado's Water Plan. In addition, the CWCB's Water Supply Reserve Account (WSRA) grant program has been used by several basins to analyze water flow requirements related to ecological values.
2/25/14	Nolan Doesken, Colorado Climate Center, Colorado State University	Online General Input Webform at <a href="http://www.coloradowaterplan.com">www.coloradowaterplan.com</a>	3; 4	Webform comment as follows: "I harp on this every chance I get since it is so easily taken for granted. Whatever we do with our water, it is imperative that we systematically track the meteorological inputs of water supply and demand -- precipitation, snowpack water content temperature, humidity, wind, solar -- in all basins and all elevational zones -- in a manner of consistency and uniformity that allows tracking long-term changes/trends. Colorado benefits from a large federal presence in Colorado that has helped with much of the historic climate monitoring -- very helpful. But we continue to see inconsistency in federal commits to basic monitoring -- and almost no federal support for monitoring the elements needed to estimate Consumptive Use (ET). So please make sure that the State Water Plan recognizes the critical importance of climate monitoring and the State role in maintaining a suitable network for water administration and planning."	N/A	<b>Staff recommendation:</b> Staff will discuss Nolan Doesken's comments related to recognizing the importance of climate monitoring within Colorado's Water Plan with the CWCB Board at the March , 2014 CWCB Board meeting.

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Date	Input Provided By	Method of Input Submission	Related Chapters of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Responses and Recommendations
2/25/14	Robert Stocker, Colorado Citizen	Online General Input Webform at <a href="http://www.coloradowaterplan.com">www.coloradowaterplan.com</a>	5	Webform comment as follows: "My comments are in the attached pdf document."	PDF	<b>Staff response:</b> It is currently illegal for Homeowners' Associations in Colorado to require bluegrass lawns, and xeriscape lawns are allowed statewide. Conservation and the environment are important aspects of Colorado's Water Plan. The CWCB has supported aquifer storage and recharge and the Basin Roundtables will be considering these concepts in their Basin Implementation Plans. Colorado water allocation and governance has always been guided by local users meeting local needs and Colorado's Water Plan will not change that. Rather than diminishing local control or authority over water, Colorado's Water Plan seeks to strengthen local decision-makers' ability to achieve regional and statewide water solutions. To that effect, Colorado's Water Plan will work to encourage, rather than mandate, several of the points presented in Robert Stockner's attached PDF.
2/26/14	Robert Stocker, Colorado Citizen	Online General Input Webform at <a href="http://www.coloradowaterplan.com">www.coloradowaterplan.com</a>	5	Webform comment as follows: "I've attached a pdf file containing an addition to my earlier comments..."	PDF	<b>Staff response:</b> See comment regarding Robert Stockner's comments included in the cell above.
2/26/14	Roy Hohn, Audubon member	Online General Input Webform at <a href="http://www.coloradowaterplan.com">www.coloradowaterplan.com</a>	5.5; 5.9	Webform comment as follows: "I would like the Roundtables to consider the nonconsumptive values of our rivers. What minimum stream flow for each river is required to maintain the flora and fauna that depend on it? I believe that we should establish minimum stream flows before additional water is diverted from our rivers and watersheds. Once minimum streams flows are known (and agreed on, obviously), then those should be given most senior water rights. No one benefits from draining rivers dry. If there's no water in the river, then no one's water rights can be satisfied."	N/A	<b>Staff response:</b> The CWCB maintains and operates In Stream Flow and Natural Lake Level programs, both of which are highly regarded as some of the most successful programs of their kind in the Western US. Nonconsumptive needs are critically important aspects of the Basin Implementation Plans and Colorado's Water Plan.
2/28/14	Carol DeStefanis, President, Audubon Society of Greater Denver	Online General Input Webform at <a href="http://www.coloradowaterplan.com">www.coloradowaterplan.com</a>	5	Webform comment as follows: "Attached are the comments of the Audubon Society of Greater Denver on the State Water Plan. Our Society has a presence in both the Metro and South Platte River Basins, but we have indicated "South Platte" as our major Basin of reference. Please see the attachment for our extended comments."	N/A	<b>Staff response:</b> Incorporating nonconsumptive needs and conservation are critical aspects of the Basin Implementation Plans and Colorado's Water Plan. The CWCB has supported aquifer storage and recharge and the Basin Roundtables will be considering these concepts in their Basin Implementation Plans.
3/3/14	Sarah Sauter, Western Slope Conservation Center	Email to <a href="mailto:cwaterplan@state.co.us">cwaterplan@state.co.us</a>	5.5; 5.6; 5.7; 5.9; 5.11	Letter to the CWCB discussing topics including agricultural conservation, the importance of reuse, and issues surrounding transmountain diversions including the statement that each basin must learn to live within its own means. The letter goes on to ask for support of measures like Senate Bill 14-23 which allow for the transfer of water efficiency savings from agriculture to in-stream uses on the West Slope. It asks that Colorado's Water Plan support not just protection, but improvement of Colorado's rivers and find funding for projects designed to meet environmental and recreational needs as defined in the Basin Roundtable Nonconsumptive Needs Assessments. The letter also asks Colorado's Water Plan to identify mechanisms that discourage the sale and transfer of water that could negatively damage entire communities, specifically "buy and dry" agricultural water transfers. Lastly, the letter requests that Colorado's Water Plan define meaningful ways that stakeholder groups and the general public can engage in water planning.	PDF Letter dated March 3, 2014 and addressed to CWCB and the Gunnison Basin Roundtable	<b>Staff response:</b> The Basin Implementation Plans and Colorado's Water Plan will incorporate conservation as a critical component to helping meet future water needs. Initial work indicates that conservation will likely be able to meet the needs of an additional one million people. This is not enough to meet all of Colorado's future water demand, so Colorado's Water Plan will also encourage solutions that balance healthy watersheds and the environment while meeting Colorado's future municipal water needs. Scenario planning indicates that a new transmountain diversion may not be needed in the future, however some futures suggest that new transmountain diversions may be a necessary part of Colorado's water supply portfolio. Colorado's Water Plan will not include any specific transmountain water project, but it will discuss how we can preserve the option for one should it be needed. The CWCB will consider the Western Slope Conservation Center's comments related to agricultural water conservation in Colorado's Water Plan Chapter 8. Legislative Recommendations to Assist Fully Implementing Colorado's Water Plan. Colorado's Water Plan will also seek funding opportunities for consumptive and nonconsumptive needs and the CWCB is currently working on aligning the state's in stream flow program with Colorado Parks and Wildlife's water rights portfolio in order to maximize benefits for nonconsumptive needs. Lastly, the CWCB and Basin Roundtables offer numerous opportunities for groups comprised of diverse stakeholders to engage in the planning process for Colorado's Water Plan.

## Cover Sheet for Input Document Received on 1/28/14

*The document listed in the table below was submitted as formal input for Colorado's Water Plan. A summary of the document, including a staff response and/or recommendation is included in the master spreadsheet included within this packet.*

Date	Input Provided By	Method of Input Submission	Related Sections of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Response
1/28/14	Southwestern Water Conservation District and the Southwest Basin Roundtable	Email to Jacob Bornstein, forwarded to <a href="mailto:cowaterplan@state.co.us">cowaterplan@state.co.us</a> .	5.5; 5.6; 5.7; 5.8; 5.11	Text from email: "Please find attached the Southwest Colorado Statement of Importance for Colorado's Water Plan. The Statement is the result of a joint collaborative effort by the Southwestern Water Conservation District and the Southwest Basins Roundtable, and has been adopted by both entities. Concepts in this document will be used in the development of the Basin Implementation Plan for southwest Colorado, and should be incorporated into Colorado's Water Plan. Feel free to circulate this Statement as desired."	PDF Version of the Southwest Colorado Statement of Importance for Colorado's Water Plan	<b>Staff response:</b> Most of the comments included in the Southwest Colorado Statement of Importance for Colorado's Water Plan, including the bullets listed under the "principles" section, are important components guiding Colorado's Water Plan, which will be a living document.

## **Colorado Water Plan**

### **Southwest Colorado Statement of Importance**

January 2014

#### **Background:**

Last spring, Governor Hickenlooper issued an Executive Order requesting that all state water interests work together in the development of the Colorado Water Plan and address the identified M&I “Gap”. The CWCB is coordinating the efforts with input from the IBCC and Basin Round Tables (BRT), and a draft of the plan is to be ready by December of 2014, and final plan by December 2015. Various positions have been expressed by multiple groups and entities on either the plan itself or the New Supply aspect (4 legs of stool). These groups include; the South Platte and Arkansas BRT’s, Front Range entities (FRWC), the West Slope Basin Round Table (new supply), and municipal providers in the Grand Junction area led by Ute Water. The southwest portion corner of Colorado is in a somewhat unique position, since historically it has not been the source of Colorado River supplies for the Front Range needs. Even so, it does have a major federal trans-mountain diversion Project that deliveries supplies to New Mexico interests in the Rio Grande basin. The San Juan-Chama Project diverts around 100,000 af per year out of tributaries to the San Juan River in Colorado. Southwest Colorado is also home to two Indian Reservations and sovereign nations dating back to 1868. The Ute Mountain Ute Tribe and Southern Ute Indian Tribe have built partnerships with the local communities and are partners with non-tribal interests in a number of major water projects in the region. The Southwest BRT is also somewhat different than other West Slope roundtables, since the Southwest roundtable geographic area is all within the Southwestern Water Conservation District boundaries, which encompass nine separate and unique sub-basins. The remaining three Western Slope Roundtables are within the Colorado River District which includes the Gunnison, Yampa/White, and Colorado mainstem. Consumptive and Non-Consumptive interests have worked well on collaborative processes in the southwestern portion of the state, and it is important that we maintain these partnerships and focus on the issues that are the most relevant to this region. Below is a list of core principles that have been discussed and adopted by the board members and staff from the Southwestern Water Conservation District, and by the Southwest Basin Roundtable:

#### **Statement:**

On May 14, 2013, Governor Hickenlooper issued Executive Order D 2013-005, which directed the Colorado Water Conservation Board (CWCB) to commence work on the Colorado Water Plan (the Plan). Every major river basin in the State has been enlisted to assist in the development of the Plan to be finalized by December 10, 2015. Although the Plan is intended to address several statewide issues of importance its primary function is to address the gap between water supply and water demand. The Southwestern Water Conservation District (SWCD) and the Southwest Basin Roundtable (SWBRT) share the same geographic boundary that include nine separate and unique sub-basins that flow independently across statelines into New Mexico and Utah. The SWCD and SWBRT also share the same values, and commit to assist in the development of Colorado’s Water Plan based on the following principles:

## Colorado Water Plan

### Southwest Statement of Importance

Page 2 January 2014

- Colorado's Water Plan (the Plan) should be used as a guiding document to assist with the development of consumptive, non-consumptive, and multi-purpose projects.
- The portion of the Plan for southwest Colorado should identify specific and unique projects that are important to maintaining the quality of life in this region and should accommodate the development of domestic supplies, environmental needs, agriculture, recreation, and commercial/industrial needs to provide for further economic development.
- The Plan will be used as a guiding document for the full development of Colorado's entitlement under the Colorado River Compact and Law of the River.
- Development of the Compact Entitlement should attempt to limit the risk of Compact administration in the future.
- The SWCD and SWBRT agree that all uses are important to the future of this region, and the development of multi-purpose projects (including the creative management of existing facility and the development of new storage as needed) within the southwest basin should be pursued.
- The Colorado Plan should recognize the downstream challenges faced by water users in southwest Colorado due to continued development and pressures from users in the State of New Mexico. The State of Colorado should utilize its resources to protect the interests in southwest Colorado, while complying with existing Compact obligations. The entitlement to Colorado River flows for New Mexico will be based on deliveries from southwest Colorado.
- The Plan should recognize the unique settlement of tribal reserved water rights claims in the 1988 Tribal Water Rights Settlement and the 1991 Consent Decree.
- The Southwest Basin supports the implementation of conservation strategies and the full development of existing supplies within the Front Range basins that will reduce the demands in the Colorado River Basin.
- The Southwest Basin recognizes a common interest with other Western Slope Roundtables and supports coordination with the Colorado River District and other West Slope Roundtables to minimize the risk of overdevelopment of the Colorado River supplies.
- The Southwest Basin supports the concurrent development of all four legs of the stool that have been identified by the IBCC, and discussed by the Southwest Basin Roundtable.
- The SWCD and SWBRT support the concept of a Water Bank, which may be used to prevent or minimize the risk of Compact administration.
- The SWBRT and SWCD believe Colorado's Water Plan should be a "living document" that can be revisited and updated as necessary to provide for adaptive management in meeting the future demands of the State.
- The SWCD and the SWBRT commit to full productive participation in the development of Colorado's Water Plan, and will stress the importance of inclusion of the components of the Basin Implementation Plan (BIP) to address future needs in the southwest part of Colorado.

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## Cover Sheet for Input Document Received on 2/18/14

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*The document listed in the table below was submitted as formal input for Colorado's Water Plan. A summary of the document, including a staff response and/or recommendation is included in the master spreadsheet included within this packet.*

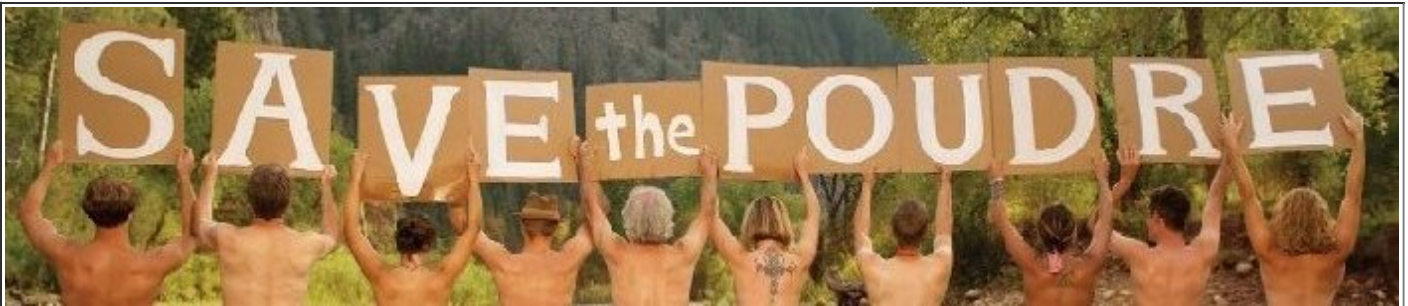
Date	Input Provided By	Method of Input Submission	Related Sections of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Response
2/18/14	Gary Wockner, Save the Poudre	Email to <a href="mailto:cowaterplan@state.co.us">cowaterplan@state.co.us</a>	5	Text from email: "Below is a press release that is going out in a few minutes. Please accept <a href="#">this letter</a> -- signed by 18 Colorado conservation groups -- as input into the Colorado Water Plan. This letter also comes in a <a href="#">video version, posted here</a> . This press release is also <a href="#">posted here</a> ."	PRESS RELEASE: Save The Poudre Requests Fort Collins Meeting for Controversial Colorado Water Plan	<b>Staff response:</b> Due to length of response, it is included only on the summary spreadsheet and not on this cover sheet.



## PRESS RELEASE: Save The Poudre Requests Fort Collins Meeting for Controversial Colorado Water Plan

Gary Wockner <garywockner@comcast.net>  
To: cwaterplan@state.co.us

Tue, Feb 18, 2014 at 10:06 AM



For Immediate Release  
February 18, 2014  
Contact: Gary Wockner, [970-218-8310](tel:970-218-8310)  
Save The Poudre: Poudre Waterkeeper

### Save The Poudre Requests Fort Collins Meeting for Controversial Colorado Water Plan Threats to Poudre River more extreme than any river in the state

Fort Collins, CO – Today Save The Poudre sent a request to State officials asking for a public meeting in Fort Collins for the [Colorado Water Plan](#). Last week the public meeting schedule for the South Platte River basin (which includes the Cache la Poudre River) was released ([posted here](#)), but there are no meetings in Fort Collins or Larimer County at all, with the closest meeting being in Longmont.

At the same time that Fort Collins was not included in the Colorado Water Plan process, the threats to the Cache la Poudre River are the most extreme in the state. Five huge proposed dam/reservoir/pipeline projects would impact the Poudre River including the Northern Integrated Supply Project (NISP), Halligan Project, Seaman Project, Bellvue Pipeline, and Windy Gap Firming Project. NISP, Halligan, and Seaman would involve large new dams on or near the river and would remove massive quantities of water from the Poudre River before it flows through Fort Collins. The Bellvue Pipeline would divert more water out of the river and send it to Greeley. The Windy Gap Firming Project proposes to drain water out of the Colorado River and use it to fill NISP reservoirs and send water to the largest climate-change polluter in northern Colorado, the Rawhide coal-fired powerplant north of Fort Collins.

"Threats to the Poudre River in Fort Collins are more extreme than for any river in the state," said Gary Wockner, director of Save The Poudre. "The people of Fort Collins deserve to have their voices heard in the Colorado Water Plan process."

The Colorado Water Plan process was instigated by Governor John Hickenlooper through an executive order in March of 2013 but has become extremely controversial. Since last March, and with practically no public input, a group of "roundtables" in each river basin has been creating drafts of the plan. In August of 2013, after a draft of the plan for the Front Range was leaked to the public, Save The Poudre issued [this press release](#) which revealed that the plan appeared to be getting hijacked by water developers. The initial draft of the plan supported building a massive network of dams, reservoirs, and pipelines that would potentially further drain and destroy every river in the state and pipe that water to the Front Range ([see new article in Summit County Voice here](#)). The "roundtable" in the South Platte River basin has zero members (out of a total of 50) who represent strong river protection positions, even though state officials keep saying in

the media that the process is "bottom up" and "grassroots." After Save The Poudre exposed this draft plan, state lawmakers have engaged, passing a bill out of committee in the senate last week that would force more public input opportunities in the plan process.



Save The Poudre's request was emailed to James Eklund (Director of the Colorado Water Conservation Board), John Stulp (Governor Hickenlooper's Water Advisor), Mike King (State Director of Natural Resources), and Senator Gail Schwartz and Representative Randy Fischer (Co-Chairs of the State Water Resources Review Committee for the State Legislature).

Last week, Save The Poudre joined with 18 Colorado conservation groups to give input into the Colorado Water Plan. That input supported alternative water supply concepts, no more dams and diversions, and creating river restoration plans throughout the state. [That input is posted here](#); a video version of the [input is posted here](#).

This press release [is posted here](#).

--end--

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Gary Wockner, PhD, Director  
Save The Poudre: Poudre Waterkeeper  
Fort Collins, Colorado  
<http://savethepoudre.org>  
<http://www.facebook.com/SaveThePoudre>  
<https://twitter.com/savethepoudre>

**Citizens for a Healthy Fort Collins \* Clean Energy Action \* Clean Water Action  
Earthjustice \* Earth Works Action \* Environment Colorado  
Frack Free Colorado \* Fractivist.com \* Plains Alliance for Clean Air and Water  
Rocky Mountain Wild \* San Juan Citizens Alliance \* Save Chatfield  
Save The Colorado River Campaign \* Save The Poudre: Poudre Waterkeeper  
Sheep Mountain Alliance \* Sierra Club – Poudre Canyon Group  
The Environmental Group \* Wild Earth Guardians**

**February 11, 2014**

**TO: Governor John Hickenlooper, Colorado Water Conservation Board, and the  
Interbasin Compact Committee**

**RE: Input to the “Colorado Water Plan” from organizations that support the health of  
Colorado’s rivers**

## **The Colorado Water Plan: “Healthy Watersheds, Rivers and Streams, and Wildlife”**

### **Overview**

Colorado’s rivers do more than support our communities and industries; they are the lifeblood of the state, providing water and habitat for thousands of species of fish, wildlife and plants. Unfortunately, over the last 100 years, we have over-exploited these irreplaceable resources, using them as tools for growth and profit, much to the detriment of the natural systems that depend on them and of the rivers themselves. Most of Colorado’s rivers are extremely imperiled, diverted and diminished – some are at times drained completely dry. Some of the worst damage has been done to rivers on which new water diversion projects are proposed including the Cache la Poudre, the Fraser, the Upper Colorado, and the South Platte.

As we move forward in the 21<sup>st</sup> century, the damage we have done to our rivers will be exacerbated by climate change. River flows are expected to plunge in the coming years – 10 to 30 percent or more on the Colorado River by 2050 – as our climate grows warmer and snowpack regimes are disrupted. What will happen to our rivers and the life that they support if we are already diverting all of the flows that we can?

In addition, an increasing amount of water is diverted, and planned for diversion, out of Colorado's rivers for the oil and gas industry's hydraulic fracturing or fracking process. Water used for fracking – which may be taken from municipal and industrial supplies developed and treated to drinking water standards – is polluted with a range of toxic chemicals and typically disposed of through deep underground injection or evaporation. Municipal and industrial participants in proposed new dam/reservoir/pipeline projects including the Seaman Project, Bellvue Pipeline, Northern Integrated Supply Project, and Windy Gap Firming Project are all selling water for fracking. This booming, non-traditional use of our most precious resource is further degrading our rivers and shows no signs of slowing.

It is time to restore our state's rivers to thriving ecological health and strike a balance in river management and water supply planning in Colorado. The new "Colorado Water Plan" provides an excellent opportunity to achieve the twin goals of health and balance for the rivers across our state.

We are encouraged that Governor Hickenlooper's Executive Order of May 13, 2013 (D2013-005), recognized the importance of these values and called for a Colorado Water Plan that would provide: **"A strong environment that includes healthy watersheds, rivers and streams, and wildlife."** The "Actions" we outline below can be coordinated with the other values stated in the Executive Order to bring this vision to life.

## **Actions**

A. Healthy Alternative Water Supply: The Colorado Water Plan should focus on making sure every drop of water that is currently diverted out of the public's rivers is not wasted and is used as efficiently as possible in municipal, industrial and agricultural sectors. This approach will eliminate the need for new river diversion projects and build more resilient communities. Colorado can achieve Healthy Alternative Water Supply systems by implementing:

- Significant increases in water conservation in all sectors.
- Significant reductions in lawn watering and significant increases in landscape retrofits towards low-water plantings.
- Municipal and industrial wastewater reuse and recycling.
- Municipal water and wastewater metering, tiered pricing, and leak detection and repair.
- Municipal stormwater capture, recycling, and reuse.
- Growth, land use planning, and zoning that minimizes water use.
- Modernizing the agricultural sector to focus on water and irrigation efficiency and reuse.

- Water sharing agreements between cities and farms.
- Federal, state, and local funding mechanisms that re-purpose funds currently allocated for proposed diversion-based projects and identify additional funding streams for these healthy alternative water supply systems.

B. No New Diversions: The Colorado Water Plan should meet future water supply needs without proposing any additional diversions from Colorado's rivers. We need to learn to live with what we have already taken.

All currently proposed water supply projects that depend on additional diversions from Colorado's rivers should be placed on hold while Healthy Alternative Water Supply systems are developed and implemented. This includes the seven extremely controversial projects currently winding through federal and state permitting processes – the Halligan Project, Seaman Project, Bellvue Pipeline, Northern Integrated Supply Project, Windy Gap Firming Project, Moffat Project, and Chatfield Project. These proposed projects are estimated to cost a total of \$2 - \$3 billion which could be better spent on a sustainable, non-diversionary future. The rivers imperiled by these projects – the Cache la Poudre, Fraser, Upper Colorado, and South Platte – are already unhealthy and wildly out of balance, with around 50% or more of their waters diverted. These rivers cannot survive further degradation.

C. River Restoration: The May 13, 2013 Executive Order called for a “strong environment that includes healthy watersheds, rivers and streams, and wildlife.” That goal can only be achieved by taking action to reverse past damage to our rivers. Accordingly, as part of the Colorado Water Plan process, Colorado should perform a detailed scientific analysis of each river in the state. Ecosystem health should be evaluated, hydrology should be compared to natural flows, and the extent of degradation of each river should be quantified. The Colorado Water Plan should then determine the amount and timing of flow that needs to be restored to each segment to bring that river ecosystem back to health. The Plan should prioritize the identified needs and prepare an action plan for how this restoration will occur with concrete timelines, management, legal, and financial requirements.

## **Conclusion**

Colorado's rivers – the literal lifeblood of our state – have no voice in their management other than what we give to them. Indeed, these rivers and the water in them belong to the public and it is the job of all citizens and public officials to be the best possible stewards of this resource. We must all ensure that their ecological health is protected for future generations and the environment. The Colorado Water Plan should enable that stewardship and guide the state towards healthy watersheds, rivers and streams, and wildlife. As organizations that

support healthy river systems, we pledge to protect Colorado's rivers for the future and call on you to do the same.

Respectfully,

Kelly Giddens, Citizens for a Healthy Fort Collins

RJ Harrington, Clean Energy Action

Katy Aterno, Clean Water Action

McCrystie Adams, Earthjustice

Bruce Baizel, Earth Works Action

Jeanne Bassett, Environment Colorado

Allison Wolff, Frack Free Colorado

Shane Davies, Fractivist.com

Connie Jensen, Plains Alliance for Clean Air and Water

Tehri Parker, Rocky Mountain Wild

Dan Randolph, San Juan Citizens Alliance

Gene Reetz, Save Chatfield

Gary Wockner, Save The Colorado River Campaign

Mark Easter, Save The Poudre: Poudre Waterkeeper

Hilary Cooper, Sheep Mountain Alliance

Will Walters, Sierra Club – Poudre Canyon Group

Chris Garre, The Environmental Group

Jen Pelz, WildEarth Guardians



## Cover Sheet for Input Document Received on 2/21/14

*The document listed in the table below was submitted as formal input for Colorado's Water Plan. A summary of the document, including a staff response and/or recommendation is included in the master spreadsheet included within this packet.*

Date	Input Provided By	Method of Input Submission	Related Sections of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Response
2/21/14	Northwest Colorado Council of Governments/ Water Quality Quantity Committee	Email to <a href="mailto:cowaterplan@state.co.us">cowaterplan@state.co.us</a>	General	Text from email: "We hope this paper will enhance the already productive discussions about the Colorado Water Plan that are ongoing around the state. Please let us know if you have questions. We look forward to continuing to work with you on the Water Plan process."	White paper regarding the Colorado Water Plan: Response to Perceptions Influencing the Colorado Water Plan; and shorter two page summary version of the main points in the paper.	<b>Staff response:</b> Due to length of response, it is included only on the summary spreadsheet and not on this cover sheet.



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## QQ white paper on CO Water Plan

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Torie Jarvis <qqwater@nwccog.org>

Fri, Feb 21, 2014 at 9:57 AM

To: Kate McIntire - DNR <kate.mcintire@state.co.us>, dnr\_cwcb\_cowaterplan <cowaterplan@state.co.us>, Jacob Bornstein - DNR <jacob.bornstein@state.co.us>, rebecca.mitchell@state.co.us, James Eklund - GovOffice <james.eklund@state.co.us>

Hello CWCB water plan folks,

On Wednesday, Northwest Colorado Council of Governments/ Water Quality and Quantity Committee (QQ) finalized a white paper regarding the Colorado Water Plan: *Response to Perceptions Influencing the Colorado Water Plan*. We have also developed a shorter *two page summary version* of the main points in the paper. The documents are available on the QQ website: <http://www.nwccog.org/index.php/programs/water-qualityquantity-committee/>.

We hope this paper will enhance the already productive discussions about the Colorado Water Plan that are ongoing around the state.

Please let us know if you have questions. We look forward to continuing to work with you on the Water Plan process.

Best regards,

Torie Jarvis  
Barbara Green  
Lane Wyatt

On Behalf of:  
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## WATER QUALITY / QUANTITY COMMITTEE (QQ)

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Post Office Box 2308 • Silverthorne, Colorado 80498  
970-468-0295 • Fax 970-468-1208 • email: qqwater@nwccog.org

### RESPONSE TO PERCEPTIONS INFLUENCING THE COLORADO WATER PLAN

In May of 2013, Governor Hickenlooper issued an executive order directing state agencies to develop the first Colorado Water Plan, which will be completed in 2015.<sup>1</sup> In response, the state has engaged in a planning process led by the Colorado Water Conservation Board.

Conversations surrounding the planning process are frequently summarized as: “We have a gap between water supply and demand, and we need to find new water supplies to meet this demand so that agricultural water rights are not converted to municipal use.”

Several perceptions, discussed here, are part of these conversations. To begin with, studies have predicted a gap of 500,000 acre feet of water, which assumes that the state’s population will double. Many believe that we cannot control the rate of growth and development in Colorado; people are going to continue to move here, even if water is not available. Concerns that agricultural lands will be dried up, and the idea that the Colorado River has ample water to spare, have led to proposals for one or more large water development projects to divert additional water from the Colorado River Basin on the West Slope to urban centers east of the Rocky Mountains. Many people do not see water conservation and reuse as viable alternatives to additional transmountain diversions for meeting the projected demand.

How we use water in Colorado is and always has been mightily contentious. Planning for the future is critical, and the Colorado Water Plan, including grassroots outreach efforts incorporated into Basin Roundtable Implementation Plans, are important steps toward conserving and optimally developing future water resources. But we need to identify and discuss some of the key perceptions so that water planning encourages a future where the natural environment and recreational resources that attract people to Colorado in the first place are not sacrificed to new development.

Here are some of the key perceptions with cited facts to support alternative perspectives to consider:

**Perception 1:**        *The demand for water results in a statewide gap between supply and demand of more than 500,000 acre feet per year.<sup>2</sup>*

**Response:** There is no statewide water supply/demand gap of 500,000 acre feet per year at the present time. The presumed gap is based on projections for *future* growth that may or may not

occur and demand figures that will be re-evaluated over the course of the water plan process to reflect the actual demands of different regions of the state.

As part of the water plan process, individual river basin roundtables will be instrumental in refining their own demand for water. Roundtables also will identify where and when water will be needed based on localized conditions. But presenting a statewide gap as a single large amount of water that will be needed every year drives solutions to filling the gap that may not be necessary or feasible.

Colorado's Statewide Water Supply Initiative (SWSI) projects that Colorado will need between 600,000 and 1 million acre feet of additional water supply for municipal and industrial use by 2050.<sup>3</sup> SWSI's finding is based on a projection of future population multiplied by a per person water use to estimate a future demand. Then, that value is compared to presumed available water supplies to arrive at a statewide future gap. SWSI estimates are by their very nature designed to portray a worst-case scenario of the future gap between supply and demand in which the lowest success rate for already planned water projects is compared to the highest population projections.

SWSI assumptions about conservation are similarly conservative. SWSI assumes that in the future, municipal and industrial water users will only achieve modest conservation levels - levels that actually are lower than the conservation goals set for some parts of the state today. For example, the metro area goal for water consumption is 129 gallons per person per day, while SWSI assumes the area will use 140 gallons per person per day.<sup>4</sup>

SWSI assumptions also do not account for the fact that much of the future development in Colorado will take place on agricultural land where water already is being used. Typically, that agricultural water will be converted to municipal and industrial use to supply the new development, rather than the new development demanding additional water.<sup>5</sup>

In addition, SWSI applied a single methodology statewide to develop per capita water use figures without considering unique circumstances, such as dramatic seasonal population swings in resort communities. For example, SWSI estimates water use in Pitkin County as 284 gallons per capita per day (gpcd) by dividing the total amount of treated water used in the county by the county's *permanent* population.<sup>6</sup> Local calculations of per capita water use in the City of Aspen, Pitkin County's largest water provider, resulted in 153 gpcd because the City of Aspen calculations accounted for visitors during tourist season that often double the permanent population and increase the amount of water used. Likewise, Summit County's year round population is around 29,000 but during peak visitor times, such as weekends or holidays, that number balloons to approximately 160,000.<sup>7</sup> Note that the calculation for Summit County's water usage at 246 gallons per person per day does not account for the population fluctuations.<sup>8</sup> This same dynamic occurs in many areas of the state and results in much higher per capita water use estimates than actual use. These examples demonstrate the need to focus on demand figures at the local level before applying statewide numbers to water planning.

Finally, SWSI presents future demand as a single volumetric number that represents a total volume of water that will be needed in the state each year. Depicting the gap as a single number ignores the reality that most water providers in the state use multiple sources for their supply,

and will be serving areas that will be growing at different rates in different locations. These localized needs do not overlap to add up to a single number at a single moment in time.

**Perception 2:**            *The population of Colorado is going to double by 2050.*

**Response:** Population growth projections used in SWSI already have been proven to be overly optimistic, and the methodology used to calculate long-term population growth is based on volatile economic patterns that make long-term growth projections unreliable. Also, population growth projections do not account for local planning and zoning efforts that can reduce the rate of population growth.

SWSI population growth projections through 2035 utilize data from the State Demographer's Office that are revised annually based on the most recent data on economic conditions and population. Compared to these revised figures, SWSI growth projections already have been proven to be too high. A spot comparison shows that SWSI projections for 2035 made in 2010<sup>9</sup> exceed the State Demographer's most recent projections for 2035 by 409,000 people.<sup>10</sup>

Where State Demographer information is not available from 2030 to 2050, SWSI used a modified version of the State Demographer's approach. Growth projections for 2050 are based on assumptions about growth in certain economic sectors. For example, in the area of energy development the low growth projection is based on no oil shale production, whereas the high growth projection assumes 550,000 barrels/day.<sup>11</sup> Yet, Colorado's economic growth patterns are very uneven, with periods of growth following recession. Colorado's economic sector has been likened to a bumpy ski slope, with five (5) "false starts" since the 2008 recession.<sup>12</sup> This economic variability makes long-term projections unreliable and calls for their continued reevaluation.

SWSI acknowledges that Colorado's population growth rate will slow down as communities approach buildout.<sup>13</sup> But SWSI predictions cannot take into account the influence on population growth from urban growth boundaries, clustered residential development surrounded by large areas of unirrigated open space, or sustainable community development initiatives that reduce the rate of residential growth and increase commercial growth so that the tax base is sound and employment opportunities are increased.<sup>14</sup>

**Perception 3:**            *We cannot control growth and development in Colorado; people are going to come anyway.*

**Response.** Colorado can influence the rate of growth and development; all that is lacking is the political will to do so. Municipal and county governments have broad land use planning and zoning authority that can have a significant impact on the rate of population growth and the ultimate population of the state. Importantly, local governments can condition the approval of development applications on whether water is available to serve the new growth.<sup>15</sup> In fact, local governments can deny development applications if sufficient water is not available for the proposed development.<sup>16</sup>



By designating areas where growth can and cannot occur, local governments also influence population growth patterns. The Land Use Control Enabling Act specifically gives local governments the authority to regulate the location of development.<sup>17</sup> Other statutes allow county and municipal master plans to identify areas most appropriate for growth.<sup>18</sup> These plans can be implemented when incorporated into zoning and other land use regulations.<sup>19</sup> Many counties have enacted regulations that encourage rural development to be clustered in a central area instead of spread out over a larger acreage to maximize water efficiency, to preserve agricultural land, and to promote open space and wildlife habitat.<sup>20</sup>

Control over the timing of development is another way that local communities can manage population growth. Municipalities and counties have the authority to require phased development in order to ensure adequate services will be available, such as water and sewer services, and to ensure that existing services will not be unduly burdened by new users.<sup>21</sup> There also is ample authority to make sure that growth pays its own way. Local governments can condition the issuance of a building permit on making or paying for necessary public improvements<sup>22</sup> and can assess impact fees to lessen adverse impacts from development.<sup>23</sup> Ensuring that new development mitigates the impacts it causes is a long-standing concept in Colorado land use planning.<sup>24</sup>

The rate of population growth can be regulated through growth management systems.<sup>25</sup> For example, municipalities and counties have successfully regulated population growth by establishing a set number of development permits available on a competitive basis,<sup>26</sup> a set number of water and sewer taps distributed to proposed developments on an as-available basis,<sup>27</sup> or a set rate of growth that limits the number of development permits issued per year.<sup>28</sup> Local governments may even place a moratorium on new development while figuring out how to regulate population densities to protect sensitive environmental areas and other resources before new development is approved.<sup>29</sup>

Local governments also can control the intensity of development based on impacts to the community or surrounding lands,<sup>30</sup> such as to prevent overcrowding or to avoid harmful concentrations of population, to encourage appropriate uses of land,<sup>31</sup> or to protect wildlife and wildlife habitat.<sup>32</sup>

Through these and other techniques, Colorado communities can have a profound effect on their own future and that of the state as a whole.

**Perception 4:**        *New water diversion projects are necessary to prevent “buy and dry” of agricultural land.*

**Response:** New water diversion projects are not the solution to the loss of agricultural land in Colorado, and in fact, these projects are likely to result in loss of agriculture on the West Slope. “Buy-and-dry” refers to the process in which a municipal water provider purchases agricultural water rights, or shares in a ditch company, and the formerly irrigated ranch or farmland is permanently dried up or converted to dryland farming. While the “buy-and-dry” practice is controversial, building more transmountain diversion projects is not the solution.

To begin with, we know from past experience that instead of saving agriculture, water diversion projects take agricultural lands out of production. For example, from 1968 to 1993, 22 ranches in Park County sold their water to municipalities - primarily Aurora, Thornton and Denver - causing dry up of 39,283 acres of irrigated hay land in the County to fuel Front Range growth.<sup>33</sup> In Grand County, over 12,372 acres of land, much of which was once used for ranching, are now owned by the Northern Colorado Water Conservancy District, Denver Water, and the Colorado River Water Conservation District - purchased for water supply reasons.<sup>34</sup> In Summit County, Denver Water owns 1,863 acres of land.<sup>35</sup>

Front range water providers have purchased upstream senior agriculture water rights and land on the West Slope over the past century to increase the firm yield of municipal transmountain water diversion projects, to allow for the siting of water storage projects, or to keep water in the Colorado River to protect endangered fish populations.

New transmountain diversion projects will further these impacts on West Slope agriculture. Due to legal and hydrologic uncertainties, water from the Colorado River and its tributaries (including the Green, Yampa, White, Gunnison, and San Juan Rivers) available to the state under the Colorado River Compact is highly variable, strongly disputed, and, simply put, unknown.<sup>36</sup> Most new projects would rely on water rights junior to the Colorado River Compact. For this reason, proponents of new transmountain diversion projects would almost certainly seek more "secure" water supplies by "buying and drying" pre-Compact West Slope agriculture water rights. Any new supply project from the West Slope would likely target the large irrigation rights in the Grand Valley and in the Gunnison River drainage that are currently used for highly productive farm and ranch operations.

The dry-up of agricultural land, wherever it occurs, can have obvious negative impacts to the local economy caused by the loss of agricultural production and the loss of businesses and jobs related to or relying upon agriculture. Also, acreage owned by governmental entities is tax - exempt so local governments' lost revenue can have negative fiscal consequences to local communities. On the West Slope, many of the ranches and farms have evolved to include fishing, hunting, boating, and wine tasting as part of their agricultural practices. If these lands are stripped of their water rights, the economic impact goes beyond the loss of agricultural production and related businesses; this also would negatively impact Colorado tourism.

Even if additional transmountain diversions were constructed, there is no guaranty that the loss of agriculture in eastern Colorado would stop. As Colorado continues to grow, buoyed by new water supply sources, new development will most likely occur on formerly agricultural lands. This trend is evidenced by the fact that less than 50 percent of the shares of the Colorado-Big Thompson project are agricultural shares, down from 80 percent in the 1950s when the Bureau of Reclamation constructed the project to bring water from the Colorado River to irrigate northeastern Colorado. Importantly, agricultural water rights are private property that can be freely bought and sold, and the viability of any agriculture operation is subject to national and international economic forces beyond the sphere of influence of the Colorado Water Plan.

The role of interstate compacts also has hastened the loss of agricultural land in eastern Colorado. For example, in the Republican River Basin, the Republican River Conservation

District in conjunction with the State of Colorado are drying-up farms to pump water to the North Fork of the Republican River, and retiring thousands of acres annually through the Conservation Reserve Enhancement Program to meet water delivery obligations to downstream states under the Republican River Compact.<sup>37</sup> In the San Luis Valley, lands irrigated by wells have been dried up to help Colorado meet its Rio Grande River Compact obligations to deliver water to downstream states and to help sustain the aquifer. On the Arkansas River, hundreds of wells went out of production to satisfy Colorado's obligation to deliver water to Kansas under the Arkansas River Compact.<sup>38</sup> A new transmountain diversion process will not solve these more global issues that have resulted in loss of agriculture.

Rather than identifying transmountain diversions as a necessary alternative to "buy-and-dry", water planning should continue to encourage temporary or rotational fallowing of agricultural land, increases in water storage, and the reuse of return flows within each basin as the first step to meeting a basin's water supply needs.<sup>39</sup>

**Perception 5:**            *There is extra water available for Front Range water supply from the West Slope and the Colorado River Basin.*

**Response.** No one knows whether there is enough additional water available from the Colorado River to supply projected population increases whether they are large or small.<sup>40</sup> Estimates vary from zero to one million acre-feet of water left in the Upper Colorado Basin for the whole state to develop.<sup>41</sup>

Many factors determine the amount of Colorado River water available for Colorado and downstream states.<sup>42</sup> Climate change will likely decrease available future water supplies from an estimated 5 percent to 20 percent or more by 2070.<sup>43</sup> Even without any future development that utilizes Colorado River water, climate change will also increase consumptive uses, such as agricultural and residential irrigation uses, as temperatures rise, evapotranspiration increases, and the growing season lengthens. Ongoing drought conditions may show us that the 20<sup>th</sup> century was in fact a relatively wet century, with future hydrology providing significantly less water.<sup>44</sup>

The Colorado River Basin Water Supply and Demand Study conducted by the U.S. Bureau of Reclamation over the entire seven-state Colorado River Basin identified an average *shortage* of 3.2 million acre feet of water by 2060 for the Colorado River basin.<sup>45</sup> Water levels in Lakes Powell and Mead are below 50 percent of capacity. As a consequence, water deliveries from Lake Powell to Lake Mead will be reduced in 2014 for the first time (8.23 million acre feet to 7.48 million acre feet).<sup>46</sup>

Under assumptions of an extended drought, modeling shows that Lake Powell would drop below the minimum power pool level of 3490 feet. To mitigate these risks, the basin states are discussing options for increasing the supply to Lake Powell, which include releasing water from reservoirs in the Upper Basin and reducing usage in the Upper Basin. That the Upper Basin states are considering such measures highlights the impact of drought on water supplies to *existing* users, even without considering the additive effects of depletions by new transmountain diversion projects.<sup>47</sup>

Stream shortages already occur regularly in the headwaters of the Colorado River due to existing transmountain diversions and local usage.<sup>48</sup> And additional water shortages are forecast for the upcoming years in the upper reaches of the Colorado River.<sup>49</sup> West Slope farmers and ranchers experience current seasonal water shortages as well.<sup>50</sup> Projected future water shortages will directly affect the recreational economy, with, for example, projected shortages of water for snowmaking at Keystone Ski Resort and reduced river flows below Dillon Reservoir that would prevent rafting and kayaking.<sup>51</sup> The water needs for healthy fisheries and riparian areas are even greater.

In 2013, American Rivers named the Colorado River the most endangered river in the United States, citing “outdated management” as the central reason for the environmental problems on the river.<sup>52</sup> At the same time, the Colorado River Basin in Colorado is home to a significant part of Colorado’s recreation-based economy, invaluable to the communities in the headwaters region and the state as a whole. Recreation and tourism generate \$13.2 billion in consumer spending, \$994 million in state and local tax revenue, and 125,000 jobs for Coloradans.<sup>53</sup> This economic driver depends on water, especially for fishing, rafting, kayaking, and snowmaking for Colorado’s world-renowned ski resorts.

The Colorado Water Plan should “not facilitate additional diversions that could threaten the [West Slope’s] environmental, social, and economic-well being.”<sup>54</sup> Relying on the Colorado River as a major source of supply for Front Range growth in light of these existing conditions is not the answer to Colorado’s projected water supply shortages. “[T]he notion that increased demands on the Front Range can always be met with a new supply from the Colorado River [is] no longer valid.”<sup>55</sup>

**Perception 6:**                    *Conservation is not able to solve our water problems; a major new water supply project is necessary to meeting the gap.*

**Response:** A major new water supply project is not inevitable because research indicates that the gap can be filled without a major new supply project with smart growth, conservation, reuse, and the successful development of water projects that have been identified during the Colorado Plan process. Rather than viewing a major new water supply project as a necessary component of meeting the gap, such a project - when considering the macro, statewide view - should be deemed a last resort measure.<sup>56</sup>

Water leaders from the Front Range have asked the state to preserve the option to build several 100,000 to 250,000 acre-foot projects to bring water east from the West Slope.<sup>57</sup> A large water supply project creates substantial environmental and economic cost, as well as many political and practical questions. Focusing efforts primarily on water supply project options needlessly draws resources away from less costly, less destructive and more attainable measures.

In 2010, a coalition of non-governmental organizations laid out a portfolio of tools to meet the projected municipal gap on the Front Range, the largest projected municipal gap statewide, without resorting to expensive new supply projects. The report looks at several alternative water supply strategies:

- Pursue only those projects that can be constructed and operated according to a set of “smart” principles delineated in the report.
- Implement more aggressive water conservation strategies. Conservation is often the cheapest, fastest, and smartest way to gain “new” water supply, and many Front Range utilities have significant opportunities to boost their existing water conservation efforts.
- Maximize the role of water reuse in meeting the future needs of Colorado’s residents, and work to improve public perception and acceptance of reuse projects.
- Cooperate with agriculture on voluntary water sharing agreements that benefit both municipalities and the agricultural community without permanently drying irrigated acres.

The report shows that these water supply strategies alone would meet the gap in the Front Range’s 2050 projected water demand of 365,000 acre feet, plus an additional 200,000 acre feet of water. In addition, innovative land use planning and incentives for smart growth can also reduce water demand by impacting the timing, location, and density of population growth.<sup>58</sup>

There also are practical and political stumbling blocks that make a new supply project unlikely at best, if not impossible. All the easiest projects that divert water from the Colorado River Basin to the east side of the Rockies have already been completed, so the cost, scale, distance and logistics of a new project are significant.<sup>59</sup> Colorado already hosts 45 transmountain diversions, with 16 of those originating in the headwaters of the Colorado River. These 16 Colorado River diversions drain 511,700 acre feet of water to the Front Range per year, leaving Colorado River tributaries with streamflows that are substantially below natural conditions. For example, the Fraser River near Winter Park now carries only 25 percent of its natural flow, and the Frying Pan River near Basalt carries just 59 percent of its natural flow. The rivers closest to the Front Range are no longer able to support additional transmountain diversions without seriously imperiling the health of these rivers.<sup>60</sup> Under such conditions, it may not be possible to gain the permits and approvals for any projects in these areas. Projects farther downstream will be extremely expensive.

Then there is the issue of cost and who will pay for a major new water supply project. Because future water supply needs will be localized, and will occur at different times, no discernible group of water users currently exists to pay for large water supply projects. Those who favor the large projects propose that the state should pay for the projects in advance, without any close look at when and where the need for water ultimately will arise.<sup>61</sup> Moreover, water simply may not be available for large new supply projects due to a number of complicated factors such as drought, climate change and legal obligations to downstream users of Colorado River water in other states.<sup>62</sup>

**Perception 7:**        *The permit process for new supply projects must be streamlined; it should not be easier to "buy-and-dry" than to permit a new supply project.*

**Response:** Local, state and federal permits for water projects are essential to assuring that impacts are addressed, whether those impacts are caused by a new supply project or "buy-and-dry."



First, it is not necessarily true that it is easier to “buy-and-dry;” projects that convert agricultural rights to municipal and industrial uses often are subject to the same requirements as a typical transmountain water diversion proposal. “Buy-and-dry” projects often require the construction of infrastructure to transport the water from the farm to the city in addition to the water court proceedings necessary to change the rights from agriculture to municipal and industrial uses. Several counties in eastern Colorado impose the same local permit requirements for these projects that headwaters counties impose on transmountain diversion projects. Where reservoirs are constructed to hold the water or if pipelines go through wetlands, federal and state environmental requirements and approvals identical to those for transmountain diversion projects will be triggered.

Second, transmountain water diversion projects *should* be subject to comprehensive regulatory requirements because of the significant socio-economic and environmental impacts that occur when water is taken from West Slope high mountain streams for use on the Front Range. The object of a complex regulatory process is to fully explore these impacts and make a final determination that best represents all interests and a full set of the potential consequences. Without regulatory oversight, Front Range population growth and development would occur at the expense of the headwaters’ environment and economy, an outcome that is obviously undesirable for the headwaters region and the state as a whole because the recreational opportunities and scenic attractions afforded by the headwaters region are key factors in attracting visitors and businesses to Colorado.

**Perception 8:**        *New transmountain diversions are necessary to protect Colorado’s entitlement to water under the Colorado River Compact.*

**Response.** The Colorado River Compact does not require a race to develop new transmountain diversion projects.

The Colorado River Compact and its influence on Colorado’s water future are enormously complex. But generally speaking, it serves to protect a certain amount of Colorado River water in perpetuity for use in Colorado. The Compact is an agreement among seven states that apportions the consumptive use of the waters of the Colorado River Basin between the Upper Basin states - Utah, Wyoming, Colorado and New Mexico - and the Lower Basin states, California, Arizona and Nevada. The Compact is both an intergovernmental agreement approved by each state, and federal law consented to by Congress under the Compact Clause of the United States Constitution. The Compact cannot be modified or terminated without the unanimous consent of each of the member states.<sup>63</sup>

The Compact allocates to the Upper Basin 7.5 million acre feet of water (326,000 gallons equals one acre-foot) and 8.5 million acre feet of water to the Lower Basin, including the Lower Basin tributaries, annually. The allocation available to Colorado is referred to as its “Compact entitlement.”<sup>64</sup> By allocating water among the Colorado River Basin states in perpetuity, the Colorado River Compact eliminates the need for Colorado to rush to develop water projects just to protect its legal water supply.

Additional transmountain diversions will only reduce the amount of water in the Colorado River that can be delivered at Lee Ferry to meet Colorado's compact delivery obligation by removing water that would have flowed west from the river and thus increasing the risk of Compact curtailment on *existing* Colorado water users. A rush to develop Colorado's entitlement by increasing diversions from the West Slope could shut down existing major water supply projects such as the Colorado-Big Thompson, Homestake, the Frying Pan-Arkansas Project or Denver Water's Moffat and Dillon Reservoir Projects or Wolford Mountain when methods are implemented to ensure that Colorado delivers its share of water under the Compact.

## Notes

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<sup>1</sup> State of Colorado Office of the Governor, "Executive Order D 2013-005, Directing the Colorado Water Conservation Board to Commence Work on the Colorado Water Plan," 14 May 2013 <<http://www.colorado.gov/cs/Satellite/GovHickenlooper/CBON/1251616203275>>.

<sup>2</sup> Office of the Governor, Executive Order D 2013-005.

<sup>3</sup> CDM, "SWSI 2010 Mission Statement, Key Findings, and Recommendations," Colorado Water Conservation Board, 26 Jan. 2011 <<http://cwcb.state.co.us/water-management/water-supply-planning/Documents/SWSI2010/SWSI2010FactSheet.pdf>>.

<sup>4</sup> Currier, John, "SWSI 2010 Reality Check," Colorado River District, 8 Jan. 2014 <[http://www.crwcd.org/media/uploads/2014\\_1Q\\_swsi\\_2010\\_reality.pdf](http://www.crwcd.org/media/uploads/2014_1Q_swsi_2010_reality.pdf)>.

<sup>5</sup> Currier.

<sup>6</sup> CDM, "Appendix H, 2050 Population Projections for the State of Colorado Municipal and Industrial Water Use Projections," Colorado's Water Supply Future, Statewide Water Supply Initiative 2010, Final Report (SWSI 2010), Colorado Water Conservation Board, January 2011: 3-8 <<http://cwcb.state.co.us/water-management/water-supply-planning/pages/swsi2010.aspx>>.

<sup>7</sup> Northwest Colorado Council of Governments Water Quality/Quantity Committee, "Water Conservation Efforts in the Headwaters Communities in the Northwest Colorado Council of Governments Water Quality/Quantity Region," Northwest Colorado Council of Governments, 2 Mar. 2009 Updated 31 Mar 2009 <<http://www.nwccog.org/docs/qq/QQWaterConservationUpdated3-31-09-1.pdf>>.

<sup>8</sup> SWSI 2010, Appendix H 3-8.

<sup>9</sup> SWSI 2010, Appendix H Exhibit 26.

<sup>10</sup> State Demography Office - Dashboard, Department of Local Affairs <[https://dola.colorado.gov/demog\\_webapps/dashboard.jsf](https://dola.colorado.gov/demog_webapps/dashboard.jsf)>.

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<sup>11</sup> SWSI 2010, Appendix H.

<sup>12</sup> Colorado-based Economic Research, "CBER Colorado Economic Forecast 2013," CBER, 7 Jan. 2013 <[http://cber.co/uploads/CBER\\_Forecast\\_2013final.pdf](http://cber.co/uploads/CBER_Forecast_2013final.pdf)>.

<sup>13</sup> SWSI 2010, Appendix H.

<sup>14</sup> For a description of changing development patterns in the Denver Metro Areas see Goetz, Andrew, "Suburban Sprawl or Urban Centers: Tensions and Contradictions of Smart Growth Approaches in Denver, Colorado," Urban Studies 50 (August 2013): 2178-2195 <<http://usj.sagepub.com/content/early/2013/03/14/0042098013478238.abstract>>.

<sup>15</sup> C.R.S. § 29-20-303 (1).

<sup>16</sup> *P-W Investments, Inc. v. City of Westminster*, 655 P.2d 1365 (Colo. 1982).

<sup>17</sup> C.R.S. § 29-20-104 (1)(e).

<sup>18</sup> C.R.S. § 31-23-206 for municipalities; C.R.S. § 30-28-106 for counties.

<sup>19</sup> C.R.S. § 31-23-206(1) for municipalities; C.R.S. § 30-28-106(3)(a) for counties.

<sup>20</sup> "Section 5: Land Preservation Subdivision Exemptions," Subdivision Regulations, Routt County, Colorado, Adopted 7 Mar. 1972 Amended and Reinstated 27 Sept. 2011 <<http://www.co.routt.co.us/DocumentCenter/View/144>>; *see also* Zoning Regulations, Routt County, Colorado, Adopted 7 Mar. 1972 Amended and Reinstated 27 Sept. 2011 <<http://www.co.routt.co.us/DocumentCenter/View/145>>.

<sup>21</sup> C.R.S. § 29-20-104 (1)(f).

<sup>22</sup> *Bethlehem Evangelical Lutheran Church v. City of Lakewood*, 626 P.2d 668, 671 (Colo. 1981).

<sup>23</sup> C.R.S. § 29-20-104 *et seq.*; C.R.S. § 30-28-133 (4)(a)(II); *Bd. of County Com'rs of Douglas County, Colo. v. Bainbridge, Inc.*, 929 P.2d 691, 698-99 (Colo. 1996).

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<sup>24</sup> *Bainbridge*, 929 P.2d at 698.

<sup>25</sup> *Construction Industry Associate of Sonoma v. City of Petaluma*, 522 F.2d 897 (9<sup>th</sup> Cir. 1975), *cert. denied*, 424 U.S. 934 (1976).

<sup>26</sup> "Chapter 6: Growth Management Quota System (GMQS) and Transferable Development Rights (TDR)," *Pitkin County Land Use Code*, July 2006 <<http://www.aspenpitkin.com/Portals/0/docs/county/countycode/chapter%2006.pdf>>; *Wilkinson v. Bd. of County Com'rs of Pitkin County*, 872 P.2d 1269, 1276 (Colo.App. 1993)

<sup>27</sup> "Title 11 Chapter 3, Growth Management Program," *Westminster Municipal Code*, 1 Jan. 2011 <<http://www.ci.westminster.co.us/CityGovernment/CityCode/TitleXI/3GrowthManagementProgram.aspx#s8>>; *see also P-W Investments, Inc. v. City of Westminster*, 655 P.2d 1365 (Colo. 1982).

<sup>28</sup> "Chapter 18.70, Residential Growth Management," *City of Golden Municipal Code*, updated through October 2013 <<http://sitetools.cityofgolden.net/Code.asp?CodeID=728>>.

<sup>29</sup> *Droste v. Bd. of County Com'rs of the County of Pitkin*, 159 P.3d 601 (Colo. 2007).

<sup>30</sup> C.R.S. §29-20-104 (1)(g).

<sup>31</sup> *Nopro Co. v. Town of Cherry Hills Village*, 504 P.2d 344, 349 (Colo. 1972).

<sup>32</sup> *Droste v. Bd. of County Com'rs of Pitkin County*, 85 P.3d 585 (Colo. App. 2003); *Colo. Springs v. Eagle County Bd. of County Com'rs*, 895 P.2d 1105 (Colo. App. 1994).

<sup>33</sup> Kindquist, Cathy Elsa, "The South Park Water Transfer: The Geography of Resource Expropriation in Colorado, 1859-1994." Thesis, University of British Columbia, 1996.

<sup>34</sup> Grand County Assessor's Office, "Grand County Acres," Northwest Colorado Council of Governments, (n.d.) <[http://www.nwccog.org/docs/qq/Grand County Land](http://www.nwccog.org/docs/qq/Grand%20County%20Land)

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[Distribution\\_201309061046420744.pdf](#)>.

<sup>35</sup> Suzanne Kenney, Summit County GIS Analyst, phone interview, 31 December 2013.

<sup>36</sup> Kuhn, Eric, "The Colorado River: The Quest for Certainty on a Diminishing River," Colorado River Water Conservation District, 8 May 2007  
<[http://www.crwcd.org/media/uploads/How\\_Much\\_Water\\_05-15-07.pdf](http://www.crwcd.org/media/uploads/How_Much_Water_05-15-07.pdf)>.

<sup>37</sup> For more detail, see "Republican River Conservation Reserve Enhancement Plan," Colorado Division of Water Resources, (n.d.)  
<<http://water.state.co.us/SURFACEWATER/COMPACTS/REPUBLICANRIVER/Pages/CREP.aspx>>.

<sup>38</sup> For a good discussion of the background on Arkansas Compact compliance issues, see Witte, Steve, "Current Issues and 08-09 Water Year Review," Colorado Division of Water Resources, 2010  
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<sup>39</sup> Colorado Basin Roundtable, "Providing for Colorado's Statewide and West Slope water needs, Colorado Basin Roundtable White Paper, Draft 4.3.2," Northwest Colorado Council of Governments, (n.d.) <<http://www.nwccog.org/docs/qq/colorado-river-basin-white-paper-draft-4-3-2-1.pdf>>.

<sup>40</sup> SWSI 2010, "Section 1, Introduction," Colorado Water Conservation Board  
<<http://cwcb.state.co.us/water-management/water-supply-planning/Documents/SWSI2010/SWSI2010Section1.pdf>>.

<sup>41</sup> AECOMM, "Colorado River Water Availability Study, Phase I Report, Draft Findings," Northwest Colorado Council of Governments, November 2009: 3-45



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<[http://www.nwccog.org/docs/qq/Page 3-45 from CRWAS1Task10Phase1ReportDraft.pdf](http://www.nwccog.org/docs/qq/Page%203-45%20from%20CRWAS1Task10Phase1ReportDraft.pdf)>.

<sup>42</sup> United States Department of Interior Bureau of Reclamation, "Colorado River Basin Water Supply and Demand Study," USBR, June 2013: 1

<[http://www.usbr.gov/lc/region/programs/crbstudy/FactSheet\\_June2013.pdf](http://www.usbr.gov/lc/region/programs/crbstudy/FactSheet_June2013.pdf)>.

<sup>43</sup> Kuhn, Eric, "Risk Management Strategies for the Upper Colorado River Basin," Colorado River Water Conservation District, 2 Jan. 2012

<[http://www.crwcd.org/media/uploads/Kuhn\\_on\\_Risk\\_Mgt\\_Strategies\\_of\\_the\\_UCRB.pdf](http://www.crwcd.org/media/uploads/Kuhn_on_Risk_Mgt_Strategies_of_the_UCRB.pdf)>.

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<[http://wwa.colorado.edu/publications/reports/WWA\\_ClimateChangeColoradoReport\\_2008.pdf](http://wwa.colorado.edu/publications/reports/WWA_ClimateChangeColoradoReport_2008.pdf)>.

<sup>44</sup> Kuhn, Risk Management Strategies for the Upper Colorado River Basin.

<sup>45</sup> USBR, Water Supply and Demand Study 2.

<sup>46</sup> United States Department of Interior Bureau of Reclamation, "Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead," USBR, December 2007 <<http://www.usbr.gov/lc/region/programs/strategies.html>>.

<sup>47</sup> Wines, Michael, "Colorado River Drought Forces a Painful Reckoning for States," New York Times, 5 Jan. 2014  
<[http://www.nytimes.com/2014/01/06/us/colorado-river-drought-forces-a-painful-reckoning-for-states.html?ref=todayspaper&\\_r=0](http://www.nytimes.com/2014/01/06/us/colorado-river-drought-forces-a-painful-reckoning-for-states.html?ref=todayspaper&_r=0)>.

<sup>48</sup> Coley/Forrest Inc., "Water and its Relationship to the Economies of the Headwaters Counties," Northwest Colorado Council of Governments, December 2011  
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<sup>49</sup> Hydrosphere Resource Consultants, "Upper Colorado River Basin Study, Phase II,"

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<sup>50</sup> SWSI 2010, Key Findings 2.

<sup>51</sup> Hydrosphere Resource Consultants, Upper Colorado River Basin Study.

<sup>52</sup> "Most Endangered Rivers" American Rivers

<<http://www.americanrivers.org/endangered-rivers/>>; likewise, the Fraser River, located near Winter Park, CO, was named the most endangered river in 2005, while the Eagle River, located near Vail, Avon, and Eagle, CO, was designated most endangered in 2010.

<sup>53</sup> "Outdoor Recreation Economy" Outdoor Industry Association,

<<http://www.outdoorindustry.org/advocacy/recreation/economy.html>>.

<sup>54</sup> "West Slope Principles for the Colorado Water Plan," Northwest Colorado Council of Governments, 6 Nov. 2013

<<http://www.nwccog.org/docs/qq/20131106%20West%20Slope%20Principles%20for%20Colorado%20Water%20Plan.pdf>>, prepared by Northwest Colorado Council of Governments, and endorsed by more than 25 local governments and water providers.

<sup>55</sup> Colorado Basin Roundtable, White Paper.

<sup>56</sup> Colorado Basin Roundtable, White Paper.

<sup>57</sup> South Platte Roundtable, Metro Roundtable, Arkansas Roundtable, "Draft, Filling the East Slope Municipal Water Supply Gap, A Joint Statement of the South Platte, Metro and Arkansas Roundtables," Colorado Water Conservation Board, 23 July 2013, <<http://cwcbweblink.state.co.us/WebLink/ElectronicFile.aspx?docid=172524&searchid=463e4d75-ed42-47c9-816c-3a4c02eea87c&dbid=0>>.

<sup>58</sup> Western Resource Advocates, Trout Unlimited and Colorado Environmental Coalition,

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"Filling the Gap, Commonsense Solutions for Meeting Front Range Water Needs," Western Resource Advocates, February 2011

<<http://westernresourceadvocates.org/water/fillingthegap/gap1.php>>.

<sup>59</sup> Best, Allen, "Water Demands Grow on Both Sides of the Continental Divide," Aspen Journalism, 11 Dec. 2013 < <http://aspenjournalism.org/2013/12/11/water-demands-grow-on-both-side-of-the-divide/>>.

<sup>60</sup> Coley/Forrest Inc., Water and its Relationship to the Economies of the Headwaters Counties.

<sup>61</sup> South Platte Roundtable, Metro Roundtable, Arkansas Roundtable, Filling the East Slope Municipal Water Supply Gap.

<sup>62</sup> USBR, Water Supply and Demand Study 1.

<sup>63</sup> "Colorado River Compact," USBR, 1922  
<<http://www.usbr.gov/lc/region/pao/pdfiles/crcompct.pdf>>.

<sup>64</sup> *See* C.R.S. § 37-46-101 establishing the Colorado River Water Conservation District to “safeguard for Colorado, all waters to which the state of Colorado is equitably *entitled* under the Colorado river compact.”



In May of 2013, Governor Hickenlooper issued an executive order directing state agencies to create the first Colorado Water Plan. Meetings are underway to work to develop the plan.

How we use water in Colorado is and always has been mightily contentious, and planning for the future is critical. We should use the Colorado Plan process to re-examine some of the underlying perceptions about water so that the natural environment and recreational resources that attract people to Colorado in the first place are not sacrificed to support future development.

## SO...LET'S CONSIDER SOME OF THOSE PERCEPTIONS:

*Perception #1: There is a large gap between our water supply and water demand.*

RESPONSE: There is no current gap. In fact, projections of a gap have shown to use faulty data and don't factor in that Colorado is a large state with lots of different water sources.

*Perception #2: The population in Colorado is going to double by 2050.*

RESPONSE: Not so fast. Not only have projections already been shown to be overestimated, but we can control our growth in Colorado by having smart development and water conservation policies.

*Perception #3: We can't control growth and development in Colorado. People will come no matter what.*

RESPONSE: Let's go over this. We can control growth with existing land use regulations, reducing water demands by requiring higher density development with less water demand and by ensuring that local governments do not approve new development unless water supplies are accounted for before we build.

# OUR COLORADO H<sub>2</sub>O

*Responding To Common Water Perceptions*

*Perception #4: New water projects must be built to save our agricultural lands.*

RESPONSE: Not only is this inaccurate, but a new water project diverting water from the West Slope can actually harm farms and ranches by taking water being used for agricultural production. Even better ways to preserve our agriculture land would be to encourage water conservation in cities and farms, allow water recycling programs, and implement creative ways of sharing water between agriculture, cities and towns.

*Perception #5: There's plenty of water on the West Slope of Colorado that we can pipe to the Front Range.*

RESPONSE: The Colorado River which runs through the West Slope was named the most endangered river in America because the river's water is so heavily used. That is right now. In the future, we can expect climate change and a need for more water in states downstream to continue stressing the already-endangered Colorado River.

*Perception #6: We won't be able to meet our water needs without new transmountain diversion projects.*

RESPONSE: Studies have shown us that we can actually meet the highest estimation of Colorado's water needs (and more) through a combination of those projects already in the planning process and simple, affordable conservation and water recycling programs.

*Perception #7: We must streamline the permits for water projects.*

RESPONSE: Between local, state, and federal requirements, we have a good system for permits in Colorado. These processes are essential to ensure that the impacts of a project are addressed. They certainly can be coordinated, but permit requirements that protect the environment and economy should not be relaxed.

*Perception #8: We need a water diversion project in order to protect Colorado's legal entitlement to the water.*

RESPONSE: The Colorado River Compact has been set up in a way that does not require us to race to use water in order to keep Colorado's share. And additional diversions from the West Slope hasten the likelihood that Colorado will need to curtail its use of water to protect downstream states that are entitled to a share of Colorado River water.

GET MORE INFO



<http://www.nwccog.org> • Water Quality & Quantity Committee

*Written by the Northwest Colorado Council of Governments, February 18th 2014.*

## Cover Sheet for Input Document Received on 2/25/14

*The document listed in the table below was submitted as formal input for Colorado's Water Plan. A summary of the document, including a staff response and/or recommendation is included in the master spreadsheet included within this packet.*

Date	Input Provided By	Method of Input Submission	Related Sections of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Response
2/25/14	Robert Stocker, Colorado Citizen	Online General Input Webform at <a href="http://www.coloradowaterplan.com">www.coloradowaterplan.com</a>	5	Webform comment as follows: "My comments are in the attached pdf document."	PDF	<b>Staff response:</b> It is currently illegal for Homeowners' Associations in Colorado to require bluegrass lawns, and xeriscape lawns are allowed statewide. Conservation and the environment are important aspects of Colorado's Water Plan. The CWCB has supported aquifer storage and recharge and the Basin Roundtables will be considering these concepts in their Basin Implementation Plans. Colorado water allocation and governance has always been guided by local users meeting local needs and Colorado's Water Plan will not change that. Rather than diminishing local control or authority over water, Colorado's Water Plan seeks to strengthen local decision-makers' ability to achieve regional and statewide water solutions. To that effect, Colorado's Water Plan will work to encourage, rather than mandate, several of the points presented in Robert Stockner's attached PDF.



Thank you for the opportunity to comment on Colorado's Water Plan.

I'm a Colorado resident of 47 years with a passion for wildlife photography. I've photographed swift foxes on the plains, elk and bighorn sheep in the mountains, ducks wintering on the South Platte River, songbirds everywhere I can find them, and even insects in my backyard. Colorado would be a poorer place without these living things. They all need water. I'm confident that a sophisticated needs analysis for human uses of water will go into the water plan. It's critical that a needs analysis for wildlife be considered too. Otherwise, we risk inadvertently destroying one of the things that makes Colorado a great place to live.

Here are a few other points that I'd like you to consider:

- Landscaping should reflect the fact that we are living in Colorado, not Ohio. Bluegrass lawns have no place in a semi-arid climate. At a minimum, we should make illegal any and all covenants that require homeowners to maintain bluegrass lawns. Use of water yard should be severely restricted and xeriscopic landscaping should be encouraged.
- New developments without proven water supplies should not be allowed under any circumstances. The Sterling Ranch fiasco is a travesty. The legislature should be ashamed to have revised state laws specifically to allow it.
- Trans-basin diversions should be minimized. Folks like me who live east of the Front Range need to learn to live with what they have.
- Ground water supplies should be recharged with intermittent flows instead of putting this water into reservoirs where it will evaporate. Let's abandon the idea of destroying much of Chatfield State Park so Chatfield Reservoir can act as an evaporation pan for "extra" water in especially wet years.
- Maintaining in-stream flows is critical. The most senior water right should be one that protects the integrity of our rivers and streams.
- Agriculture should be encouraged to produce things compatible with our climate. Without irrigation, much of the land in Colorado is suitable for grazing and not much else. Let's use it for grazing and let other wetter states grow things that require more water.
- Unlike many other water uses, fracking makes water unavailable for future use – either by polluting it beyond all reasonable possibility for recovery or leaving it permanently deep within the ground. Severe restrictions should be considered.

Finally, a water plan should not be established without considering other plans related to growth. We should grow our economy from within, not from without. When we solicit companies to move their operations to Colorado, we may create jobs, but we also encourage young families to move here to fill those jobs. Those families require more water, more houses, more roads, more schools, more shopping centers, and more suburban blight. In general, these changes leave our current citizens less well off than they were before the development. Development is not always cost-effective. Let's be careful about what we ask for.

Sincerely yours,  
Robert N. Stocker

I should have slept on my previous comments before submitting them. I left out two important points about efficiency:

- Colorado's "use it or lose it" water rights policy discourages efficiency. Laws should be revised to reward water users, particularly agricultural users, who manage to do the same or more with less water. Water saved by these changes should be left in the rivers and streams where it originates.
- Efficiency standards should not inadvertently penalize water users who have already cut back on their use. Conservation measures like, "households will be penalized unless they reduce water consumption by x%," would paint with too broad a brush. If strict conservation measures need to be imposed, it would be fairer to place surcharges on excessive per household consumption.

Thank you again for the opportunity to comment on Colorado's Water Plan.

Sincerely yours,  
Robert N. Stocker



*South Platte River near Mississippi Avenue, January 2011*

## Cover Sheet for Input Document Received on 2/28/14

*The document listed in the table below was submitted as formal input for Colorado's Water Plan. A summary of the document, including a staff response and/or recommendation is included in the master spreadsheet included within this packet.*

Date	Input Provided By	Method of Input Submission	Related Sections of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Response
2/28/14	Carol DeStefanis, President, Audubon Society of Greater Denver	Online General Input Webform at <a href="http://www.coloradowaterplan.com">www.coloradowaterplan.com</a>	5	Webform comment as follows: "Attached are the comments of the Audubon Society of Greater Denver on the State Water Plan. Our Society has a presence in both the Metro and South Platte River Basins, but we have indicated "South Platte" as our major Basin of reference. Please see the attachment for our extended comments."	N/A	<b>Staff response:</b> Incorporating nonconsumptive needs and conservation are critical aspects of the Basin Implementation Plans and Colorado's Water Plan. The CWCB has supported aquifer storage and recharge and the Basin Roundtables will be considering these concepts in their Basin Implementation Plans.

Thank you very much for the opportunity to comment on Colorado's Water Plan.

The Audubon Society of Greater Denver is a grassroots conservation organization founded in 1968, with approximately 3,000 members in the Denver metro area. Our mission is to advocate for the environment, connecting people with nature through research, education and conservation. We would like to make the following points:

So far the documentation for the Plan has focused on quantifying the need for water for agricultural, municipal and industrial uses - the consumptive uses of water. However, Colorado's economy and our Colorado lifestyle benefit from a strong tourist industry based on our scenery, fish and wildlife resources, and these non-consumptive uses should also be quantified and added into any consideration of future water allocation in Colorado. Some of these non-consumptive uses have been mapped, but much more work is needed to quantify the amounts of water required to keep our rivers healthy and productive. Rivers need scouring flows in the spring, adequate winter flows to support aquatic life and summer/fall flows to maintain invertebrate and vertebrate aquatic species and riparian vegetation.

Over the last 100 years we have drained, dammed and diverted our rivers and streams to the detriment of most species and to the detriment of the rivers themselves. As you are fully aware, we are not starting out in this planning process with healthy rivers! Most of Colorado's rivers are imperiled, diminished and sometimes drained completely dry. Any further diversions will cause the loss of the water-based recreation (such as rafting and fishing) and wildlife resources that add billions to Colorado's income each year. The State Water Plan needs to outline a strategy to restore ecological health and balance to our rivers and streams.

We believe the Plan should include a significant focus on water conservation - the cheapest, easiest and fastest way to "create" more water - water recycling, and water efficiency, to make sure every drop of water is used as efficiently as possible in municipal, industrial and agricultural processes. This can help ensure that no new water diversions are needed and should allow provision to restore degraded stream reaches. We support conservation measures such as:

- Municipal and industrial wastewater reuse and recycling; water metering, tiered pricing and leak detection and repair.
- Temporary water sharing agreements between agriculture and cities when agriculture has surplus water
- Regulations that ensure that adequate and proven long term water supplies are available to communities before new developments are approved.
- Significant increases in water efficiency by agricultural users.

- Minimization of trans-basin diversions

Other points we would like to have considered:

Minimization of construction of new dams and reservoirs - these store water on the surface where a large percentage is lost to evaporation. "Smart" storage should be underground, in aquifers, or in deep gravel pits where evaporation can be minimized.

Our mission, to advocate for the environment by connecting people with nature through education, conservation and research fully supports Governor Hickenlooper's Executive Order of May 13., 2013 which states " A strong environment that includes healthy watersheds, rivers and streams and wildlife". Our Nature Center located at Chatfield State Park and on the South Platte Watershed makes us acutely aware and engaged on water issues and the impact to wildlife and recreational uses. We are encouraged by the extensive work already completed by the Interbasin Committees and look forward to providing further input at the upcoming public meetings.

Respectfully

,  
Carol DeStefanis, President  
Audubon Society of Greater Denver



## Cover Sheet for Input Document Received on 3/3/14

*The document listed in the table below was submitted as formal input for Colorado's Water Plan. A summary of the document, including a staff response and/or recommendation is included in the master spreadsheet included within this packet.*

Date	Input Provided By	Method of Input Submission	Related Sections of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Response
3/3/14	Sarah Sauter, Western Slope Conservation Center	Email to <a href="mailto:cowaterplan@state.co.us">cowaterplan@state.co.us</a>	5.5; 5.6; 5.7; 5.9; 5.11	Letter to the CWCB discussing topics including agricultural conservation, the importance of reuse, and issues surrounding transmountain diversions including the statement that each basin must learn to live within its own means. The letter goes on to discuss other items as outlined in the summary spreadsheet.	PDF Letter dated March 3, 2014 and addressed to CWCB and the Gunnison Basin Roundtable	<b>Staff response and recommendation:</b> Due to length of response, it is included only on the summary spreadsheet and not on this cover sheet.





March 3, 2014

Colorado Water Conservation Board  
1313 Sherman Street, Room 721  
Denver, CO 80203  
[cowaterplan@state.co.us](mailto:cowaterplan@state.co.us)

Re: Colorado Water Plan Comments

Dear CWCB and Gunnison Basin Round Table,

The Western Slope Conservation Center is a grassroots non-profit conservation organization based in Paonia, CO, and dedicated to protecting and enhancing the lands, air, water and wildlife in the Lower Gunnison Basin. The Conservation Center (formerly NFRIA) has been actively involved in designing and constructing river improvement projects on the North Fork of the Gunnison River (North Fork) since 1996. We have restored 8 miles of the North Fork, rehabilitated over 20 acres of wetlands, reconstructed 8 irrigation diversions for fish migration and recreational boating, removed a dam, and relocated 2 in-stream gravel mines, converted an in-stream gravel mine into the 24 acre Paonia River Park. Our team of volunteers has collected water quality data on the North Fork and Surface Creek in partnership with Colorado River Watch since 2001. This year we will be hosting our 15<sup>th</sup> annual River Awareness Float Trip for interested community members and our 3<sup>rd</sup> annual Paonia River Park Conservation Days – a water festival-like event for area 4<sup>th</sup> graders.

The Conservation Center and our 400 members are concerned about the health of our rivers. The quality and quantity of Colorado's water supply is critical to the survival of our ecosystems as well as our local economies. To ensure healthy rivers remain for future generations, environmental needs must be considered on equal grounds with all other water uses.

We are encouraged by the Governor's Executive Order requiring Colorado's Water Plan to incorporate the following values: 1) a productive economy that supports vibrant and sustainable cities, viable and productive agriculture, and a robust skiing, recreation and tourism industry; 2) efficient and effective water infrastructure promoting smart land use; and 3) a strong environment that includes healthy watersheds, rivers and streams, and wildlife. We concur with the vision and principles outlined in the Conservation Position and Principles for Colorado's Water Plan.

Colorado's Water Plan must raise the bar when it comes to water conservation. Water efficiency is the best way for communities to meet water needs and become self-reliant. Water conservation should not be limited to urban water providers – our small rural communities, agriculture and industrial users should also be encouraged to employ water conservation techniques. Agriculture has the opportunity to modernize infrastructure and coordinate withdrawals, which can improve net productivity and profitability while using less water. Water efficiency measures for future domestic and industrial development should be mandatory and incentives offered for retrofitting existing homes and businesses. Tiered pricing could encourage household conservation while asking the larger water users to pay for the true cost of water.

*Western Slope Conservation Center*

*Protecting Rivers, Public Lands, and Quality of Life in Delta County since 1977*

Box 1612, (204 Poplar Ave.) Paonia CO 81428 • 970-527-5307 • [www.theconservationcenter.org](http://www.theconservationcenter.org)

Water re-use/recycling should be incentivized in Colorado's Water Plan. Use of recycled and produced water can save significant amounts of fresh water, and the technologies exist to recycle industrial water at an economically feasible cost. Trans-basin diversion water must be re-used to extinction, to the extent allowed by the law. It is disheartening to hear that the Northern Water Conservancy District has sales on their "excess" water. If there is truly excess water it should remain in the basin of origin.

Accelerated growth and a limited water supply have intensified competition for water throughout Colorado. Countless studies commissioned by the State have documented significant and growing gaps between supply and demand. Eighty percent of the water is on the West Slope while eighty percent of the population is on the Front Range. The western slope's quality of life, abundant wildlife, and thriving recreational economy should not be sacrificed so that the Front Range can water its lawns. The Western Slope's Rivers play a crucial state role in providing compact water. Over-development of our water will cause adverse effects to the recreation, wildlife, and agriculture which the State's economy depends. Large-transbasin diversions from the Colorado Basin are not the solution to Front Range water woes. Each basin must learn to live within its means.

As a state, we must seek creative water-sharing agreements and incentives for water conservation that support existing water uses while at the same time meeting the needs of our growing communities and protecting our rivers. Currently, the law *discourages* conservation. Ditch companies must divert their full decrees whether they use it or not under risk of abandonment. It is difficult for agriculture to conserve water in a meaningful way and leave the savings in the river. Innovative and forward-thinking ideas like voluntary water banks and SB14-23, which will transfer water efficiency savings to instream use should be supported.

Colorado's Water Plan should identify ways to actively protect and improve our rivers – not avoid them additional harm. This can be accomplished by funding projects designed to meet environmental and recreational needs as identified in the basin non-consumptive needs assessments. The State's in-stream flow program should also be strengthened and funded to protect our water heritage and recreational economy without injury to agriculture and within the Prior Appropriation Doctrine.

Colorado's Water Plan must find a way to recognize and preserve historic uses that are paramount to preserving our rural culture. That means ensuring adequate quality and quantity of water to support our rivers and multi-generational family agriculture. The plan should identify mechanisms that discourage the sale and transfer of water that could negatively damage entire communities, specifically "buy-and-dry" agricultural water transfers for both municipal and industrial uses.

Finally, we request that the Colorado Water Plan define meaningful ways for stakeholder groups and the general public to engage with water planning. The technical nature of water planning is intimidating for those unfamiliar with water vernacular. Local stakeholder groups are often the best intermediaries between technical experts and those who the implementation plans are targeting.

As stated on the Colorado Water Plan website, "healthy watersheds, rivers and streams are fundamental Colorado values." The Colorado Water Plan presents us with a monumental opportunity to put in place strong protections and forward-thinking measures that will preserve our State's most valuable resource for future generations. The Conservation Center looks forward to engaging with the State and the Gunnison Basin Round Table on the Colorado Water Plan.



Sarah Sauter  
Executive Director