

Colorado's Water Plan - Input Received
between 3/4/14 and 5/2/2014

Item Number	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	3/4/14	Steve Harris on behalf of Southwestern Water Conservancy District	Email to Jacob Bornstein and Rebecca Mitchell; forwarded to cewaterplan@state.co.us	Framework, 1.2, 5.2, 8	Comments from the Southwestern Water Conservancy District on Colorado's Water Plan Framework, Sections 1.2, 5.2, and Chapter 8.	Comments on draft attached	Staff recommendation and response: CWCBC staff will discuss with the CWCBC Board in May, 2014 the reorganization of Chapter 5 suggested by Steve Harris on behalf of the Southwestern Water Conservancy District. Mr. Harris suggests that Chapter 5 be split into 2 subsections, with one of the subsections addressing the "four legs of the stool", and the other subsection addressing Sections 5.1 - 5.4 and 5.10. With regard to Mr. Harris' caution regarding land use, this issue received Board discussion during the March, 2014 CWCBC Board workshop. The Board decided to create a separate subsection on land use which describes the relationship between water and land use and suggests some incentives that local jurisdictions may consider. This section will be available for review at the May Board meeting.
2	3/5/14	Diane Johnson, Eagle River Water & Sanitation District, sent on behalf of 8 entities within Eagle County	Email to cewaterplan@state.co.us	1, 5.10	Text from email: "Attached are Principles for the Colorado Water Plan from the Eagle River Basin (tributary to the Colorado River) that have been adopted by entities within Eagle County. Also attached are Resolutions “Endorsing the West Slope Principles and Adopting the Eagle River Basin Principles for the Colorado Water Plan” by the following municipalities, special districts, and water providers within the Eagle River Basin: - Arrowhead Metropolitan District - Berry Creek Metropolitan District - Eagle Vail Board of Governors - Eagle River Water & Sanitation District - Edwards Metropolitan District - Town of Avon - Town of Vail - Upper Eagle Regional Water Authority Each of the Resolutions states, among other items, that the Board of Directors of the above entities “supports these principles and believes that the Governor and the Colorado Water Conservation Board should adhere to these principles in preparing the Colorado Water Plan.” We submit this message and the attached documents as public input on the Colorado Water Plan to be considered by CWCBC Directors at the March 18, 2014, Board meeting. Thank you for the opportunity to include this information in the board packet. The West Slope Principles were previously provided to the CWCBC by the Colorado Basin Roundtable, and were previously endorsed by many other jurisdictions."	Comments in attached letter	Staff response: The CWCBC is committed to sending letters to each of the participating entities within the Eagle River Water and Sanitation District with a more detailed response and inviting these entities to engage in the conversation about how to best incorporate the West Slope Principles and any related thoughts or concerns. In general, many of the West Slope Principles are consistent with the values that will be expressed in Colorado's Water Plan, which are: 1) vibrant and sustainable cities, 2) viable and productive agriculture, 3) a robust recreation and tourism industry, and 4) a thriving environment that includes healthy watersheds, rivers, streams, and wildlife. In addition, the Interbasin Compact Committee (IBCC) is working through several issues related to the West Slope Principles and their direction is largely consistent with these values. Colorado's Water Plan also further encourages conservation, reuse, incentives for land use, as well as multi-purpose and cooperative projects. The plan is founded upon scenario planning, which will allow for Colorado to adapt to changing water supplies over time. In addition, the state is working vigorously with other upper basin states and the Colorado River Basin as a whole to mitigate any risks Colorado may face with regard to compact compliance and other interstate issues.
3	3/5/14	Thaddeus Tecza, United North Metro Denver	Online General Input Webform at www.coloradowaterplan.com	5.4	Webform comment as follows: " On Monday, March 3, I attended the Denver outreach meeting of the South Platte River Basin Implementation Plan. At that meeting I noted that the Colorado Department of Transportation currently is engaged in the I-70 East Project which will reconstruct and widen I-70 below grade from Dahlia Street to Brighton Boulevard. This will significantly impact the South Platte River in numerous ways including, (A) constructing a barrier that will divert the dominant groundwater drainage for 1.75 miles, (B) releasing large amounts of contaminated groundwater that will need to be treated prior to release into the river, and (3) creating an east-west impervious surface equivalent of a new river that will channel large amounts of contaminated water toward the river with each significant rainfall, rather than allowing normal absorption into the ground. I asked why CDOT is not being required to integrate their activities into the overall South Platte River Basin Implementation Plan. I believe that they should be required to do so rather than being allowed to independently develop their plan. "	Comments in attached letter	Staff response: CWCBC staff will pass this comment on to the South Platte BRT and CDPHE. The Water Quality Division of the Colorado Department of Public Health and Environment (CDPHE) regulates water quality issues of this nature in the state. However, please note that the CWCBC is working in close coordination with the Water Quality Control Division on Section 5.4 Water Quality, which will be released for public review at the May 2014 CWCBC Board meeting. Finally, many decisions regarding roadway projects are managed at the local level, as opposed to the state having jurisdiction in these matters.
4	3/7/14	Jack Arney, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	5.6.1	Webform comment as follows: "your comments show your thinking is on the right track..I hope you realize that the objectives you have outlined depend on the amount of snowfall and rain the basins receive. city folks have to realize these basics and how they effect their daily lives. i.e. showers , lawn and car care, gardens and whatever else needs they have." we live on the west slope and have a few acres for hay, etc., and have been involved with a small domestic water company for many years. irrigation is not new to us but sometimes a mystery...I am 82 plus years, a forester and wildlife biologist and still have a lot to learn about water. thanks for the opportunity to visit with you. I will keep in touch."	N/A	Staff response: The CWCBC is working together with the Basin Roundtables (BRTs) to expand education and outreach activities related to raising awareness regarding the issues presented in the webform comments submitted and Chapter 7. Outreach, Education, and Public Engagement will include recommendations on continuing education on these topics long-term. 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.
5	3/8/2014 - 3/15/14	24 emails generated from individuals who submitted a form letter online	Email to cewaterplan@state.co.us	5.9	Form letter text base: "As an river enthusiast and active recreational-user, I'm concerned that the Colorado Water Plan is not taking sufficient steps to protect and restore flowing rivers and the tourism and recreation opportunities they provide. I'm writing in support of a Water Plan that is consistent with Governor Hickenlooper's focus on "a strong environment that includes healthy watersheds, rivers and streams, and wildlife." Please advance a Water Plan that keeps Colorado's rivers healthy and flowing, increases water recycling and conservation programs, protects our farms and ranches by making agricultural water use more efficient, and find ways to improve flows for river health and our recreational economies."	A separate attachment was created for the Board packet including 24 emails	Staff response: 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. The values driving Colorado's Water Plan address all of the important strategies mentioned in this group of form letters. Those values are 1) vibrant and sustainable cities, 2) viable and productive agriculture, 3) a robust recreation and tourism industry, and 4) a thriving environment that includes healthy watersheds, rivers, streams, and wildlife. 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.

Colorado's Water Plan - Input Received
between 3/4/14 and 5/2/2014

Item Number	Date	Input Provided By	Method of Input Submission	Related Chapters of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Responses and Recommendations
6	3/7/14	Nik White, American Whitewater Association Member	Online General Input Webform at www.coloradowaterplan.com	5.6.2, 5.9	Webform comment as follows: "1. On May 15, 2013, Governor Hickenlooper signed legislation, HB13-1044, regarding authorization of the use of graywater in Colorado. As a result of the legislation, the Water Quality Control Division of the Department of Public Health and Environment is beginning to develop a graywater control regulation for consideration by the Water Quality Control Commission. Please approve their proposed regulations to allow graywater reuse in residential areas. 2. As an river enthusiast and active recreational-user, I'm concerned that the Colorado Water Plan is not taking sufficient steps to protect and restore flowing rivers and the tourism and recreation opportunities they provide. I'm writing in support of a Water Plan that is consistent with Governor Hickenlooper's focus on "a strong environment that includes healthy watersheds, rivers and streams, and wildlife." Please advance a Water Plan that keeps Colorado's rivers healthy and flowing, increases water recycling and conservation programs, protects our farms and ranches by making agricultural water use more efficient, and find ways to improve flows for river health and our recreational economies. "	N/A	Staff response: The issue of graywater in Colorado will be addressed within Subsection 5.6.2 Reuse. The values driving Colorado's Water Plan address all of the important strategies mentioned in this group of form letters. Those values are 1) vibrant and sustainable cities, 2) viable and productive agriculture, 3) a robust recreation and tourism industry, and 4) a thriving environment that includes healthy watersheds, rivers, streams, and wildlife. Meeting Colorado's nonconsumptive needs is a critical aspect of Colorado's Water Plan. 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.
7	3/8/14	Allison White, American Whitewater	Online General Input Webform at www.coloradowaterplan.com	5.6, 5.9	Webform comment as follows: " I support the sensible use of water resources, including conservation and reuse efforts. Like many Coloradans, the enjoyment of the outdoors is one of the main reasons I make my home here. I would like to see rivers continue to run for generations to come."	N/A	Staff response: The values driving Colorado's Water Plan address all of the important strategies mentioned in this group of form letters. Those four values are 1) vibrant and sustainable cities, 2) viable and productive agriculture, 3) a robust recreation and tourism industry, and 4) a thriving environment that includes healthy watersheds, rivers, streams, and wildlife. Meeting Colorado's nonconsumptive needs is a critical aspect of Colorado's Water Plan. 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.
8	3/11/14	Combined comments from Melinda Kassen, WaterJamin Legal & Policy Consulting; Theresa Conley, Conservation Colorado; Bart Miller, Western Resource Advocates	Email to Mike King, James Eklund, and Rebecca Mitchell; forwarded to cowaterplan@state.co.us	Framework, 1, 5.9, 5.10	Combined comments regarding Chapters 1, 5.9, 5.10, and the Annotated Framework.	Comments on draft attached	Staff response: With regard to modifications to the Annotated Framework, the suggestion is that for 5.9 single purpose environmental or recreational projects should be incorporated. The updated May version of the Annotated Framework includes this change. An additional comment suggested that the description for Section 1.1 of the Annotated Framework should indicate that as we meet the gap, we should be "minimizing the permanent buy and dry of irrigated agriculture and impacts to Colorado's Rivers". The updated May version of the Annotated Framework includes this change. The comments also suggest that some of the wording describing Section 5.10 is confusing and staff has worked to clarify this in the Annotated Framework. The CWCB will review and incorporate the comments as appropriate into the related chapters and sections of Colorado's Water Plan. Since all of the comments are on chapters and sections previously released to the CWCB Board, the final draft versions with all public comments incorporated will be released in October, 2014.
9	3/11/14	David Lorenz, Executive Director of South Suburban Park and Recreation District	Email to cowaterplan@state.co.us	5.9, South Platte/Metro BIP	Text from email: "I recently attended the meeting on March 3 that you put on at the Tivoli Turnhall facility in Denver. I was surprised at how little the consultants knew about all the work we are doing on the South Platte River thru Arapahoe County. We have a group that includes representatives from Arapahoe County Open Space, Littleton, Englewood, Sheridan, Urban Drainage and Flood Control, Corp of Engineer, and South Suburban Parks and Recreation District. We have been working for several years to improve the river channel, acquire adjacent lands, build trails and recreation amenities, improve water flows and water quality, and economic development opportunities, etc. I think it would be valuable to coordinate a meeting to bring you up to date regarding what we have accomplished and what we are still working on. I would like to suggest a meeting as soon as possible to share information. In the interest of time, I suggest a meeting with three representatives of our group, Michael Penny, Littleton City Manager; Laura Kroeger, Urban Drainage and Flood Control; and myself. I am the Executive Director of South Suburban Park and Recreation District. Due to scheduling conflicts, is it possible to meet sometime next week or after March 30??"	N/A	Staff response: The CWCB forwarded Mr. Lorenz' email on to the South Platte and Metro basin representatives including the consultant teams, and Roundtable chairs. The Roundtable chairs were in touch with Mr. Lorenz regarding his input.
10	3/12/14	Anthony D'Aquila	Online General Input Webform at www.coloradowaterplan.com	Yampa/White BIP	Comments regarding the Yampa/White/Green Basin Implementation Plan.	Comments in attached letter	Staff response: CWCB Staff will forward the attached letter to the Yampa/White Green Basin Roundtable for review.
11	3/12/14	Polly Hays, US Forest Service	Email to Rebecca Mitchell; forwarded to cowaterplan@state.co.us	1, 5.2	Comments from the US Forest Service on the draft sections of Colorado's Water Plan that were presented to the Board in January, 2014 (Chapter 1, Section 5.2).	Comments in attached letter	Staff response: The CWCB will review and incorporate the comments from the USFS as appropriate into the related chapters and sections of Colorado's Water Plan. Since all of the comments are on chapters and sections previously released to the CWCB Board, the final draft versions with all public comments incorporated will be released in October, 2014.
12	3/14/14	Ben Beall, Yampa River System Legacy Partnership/America's Great Outdoors	Email to cowaterplan@state.co.us	1, 5.9	Text from email: "I have attached a letter that the Yampa River System Legacy Partnership/ America's Great Outdoors as requested by Jay Gallagher which the Legacy Partnership sent to Jacob Bornstein, Program Manager, CWCB. Last Wednesday, March 12, 2014 the Legacy Partnership submitted a similar letter concerning the CWP to the Yampa/White/Green Roundtable. Thanks for your consideration of the Legacy Partnership Principles in regards to the Yampa River for the CWP."	Comments in attached letter	Staff response: CWCB Staff will forward the attached letter to the Yampa/White Green Basin Roundtable for review.

Colorado's Water Plan - Input Received
between 3/4/14 and 5/2/2014

Item Number	Date	Input Provided By	Method of Input Submission	Related Chapters of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Responses and Recommendations
13	3/16/14	Frances Frainaguirre, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	5.6.5	Webform comment as follows: "How can fracking even be considered when all the public hears is that we have a water shortage. Our water sheds and rivers need to be protected for future generations. The lowering of I 70 to accommodate the widening east of I 25 is not the best way to deal with flooding situations. Digging up are a residential street (Race St.) is not an equitable way of dealing with the water table in the widening area."	N/A	Staff response: Fracking currently uses approximately 18,000 acre feet per year, which is a very small proportion of Colorado's overall water use. However, there may be some areas where there are greater regional effects. In addition, power plants that burn natural gas to make energy use less water than traditional power plants. Therefore, from an overall resource management perspective, fracking and the resulting energy production do not consume a significant amount of water compared to current levels. Under Colorado's constitution there is a right to use water for beneficial purposes if it is available. Colorado's Water Plan is not geared toward restricting specific beneficial uses such as fracking. With regard to the concern of flooding associated with the lowering of I-70, this is a local issue. CWCB staff will pass the comment on to the South Platte BRT, will discuss internally with CWCB's Watershed and Flood Protection Section to see if the discussion warrants any state action.
14	3/17/14	Carl Stude, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	5.6.4, 5.7	Webform comment as follows: Here's a broad oversight from a person who lives in Western Colorado (Garfield County), but has a national perspective on the importance of allocating water efficiently for a multitude of legitimate uses. To start with, any plan addressing only the water demands of Colorado is flawed in ignoring the potentially greater demands of downstream states, and also flawed in not recognizing the potential for economics (especially, trading of water rights) to allocate the water most fairly and efficiently on a national basis. All of the platitudes about sustaining agriculture in Colorado, or on the Western slope, tend to divert attention from two facts about agriculture in Colorado that relies upon irrigation rights dating back to the 19th Century: 1. Irrigated agriculture is far and away the greatest consumptive use of water, and where municipal water requirements are concerned, irrigation of lawns is by far the greatest consumptive use. Aside from irrigation, normal domestic and industrial uses consume relatively little water, because the vast majority is treated and returned to streams for subsequent re-use. The implication is that areas of high population such as the front range can meet their basic water NEEDs by reducing irrigation and recycling water (particularly for irrigation and industrial cooling). I would consider the basic NEED to be about the 60 gallons per person per day that typical communities use for domestic and commercial purposes, without irrigation or recycling. 2. Much of the agricultural irrigation is of pastures used to grow hay to feed to livestock. That is an extremely inefficient way to grow food, and this would become apparent if there were a market mechanism that allowed farmers and ranchers to sell their water rights to downstream users -- including those in other states. This does NOT mean that all water being used to irrigate pastures in Colorado would necessarily be sold for growing, say, lettuce or almonds in Southern California. While I do not know the exact relationship between the inches of water applied to forage crops and the production per acre, it is apparent that the amount of water being applied to pastures in my area is well into the area of diminishing returns. That means that, with appropriate market incentives, ranchers or other farmers would optimize their incomes by selling a part of their water rights and continuing to operate with less water. I am also aware that maintaining certain minimum flows of water in streams provides considerable benefit in the form of recreation and preservation of wildlife. Some of this benefit can be measured in dollar terms and some cannot. But in most cases, selling water rights to there parties would simply involve shifting water diversions farther downstream, such that more miles of stream would experience more natural levels of flow. It is an excellent example of the way that enhanced economic efficiency can be compatible with environmental protection. "	N/A	Staff response: Regarding comment 1) Lawn irrigation - the commenter is correct in stating that urban lawn irrigation consumes more water than other municipal water uses. Subsection 5.6.1 explores opportunities for municipal conservation including outdoor use. It is important to understand that urban environments that include vegetation are critical aspects of vibrant cities, which is a value driving Colorado's Water Plan. While Colorado's Water Plan won't get into the technical details concerning consumptive use, this issue will be addressed in the 2016 update of the Statewide Water Supply Initiative. Regarding comment 2) Colorado's Water Plan will discuss agricultural sharing in many ways including the potential to use agricultural water for Interruptible Supply Agreements (ISA) and agricultural/nonconsumptive partnerships. Additional information is available in Subsections 5.6.4 and Section 5.7.
15	3/18/14	Ellis McFadden, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	General	Webform comment as follows: "General concern about water in Colorado"	N/A	Staff response: N/A
16	3/19/14	Lee-Ann Hill, Dolores River Boating Advocates	Email to cwaterplan@state.co.us	5.9, Southwest BIP	Comments from Dolores River Boating Advocates for the Colorado's Water Plan, most of which were also discussed in person with CWCB staff.	Comments in attached letter	Staff response: The CWCB appreciates the encouragement to continue to engage on solving the difficult issues on the Dolores River. CWCB and the Southwest Basin Roundtable have helped fund efforts, such as "A Way Forward," and will continue to support the Dolores River Dialogue process as appropriate. Staff will pass these comments onto the Southwest Basin Roundtable. CWCB has helped fund the operation of the Slick Rock Gage on an annual basis, and if there is considerable local support for funding the Slick Rock gage on a more permanent basis, will discuss with the CWCB Board how CWCB may be able to help fund it on a more permanent basis. Staff encourages Dolores River Boating Advocates to partner with other groups and ask the Basin Roundtable or the Watershed Protection Fund for assistance to develop a Watershed Plan for the Upper Dolores River. This could incorporate the optimization study, youth involvement, and watershed assessments. Because staff has supported many watershed efforts across the state, please contact Chris Sturm for some example grants and watershed plans that have been fruitful.
17	3/24/14	Melinda Kassen, WaterJamin Legal & Policy Consulting	Email to cwaterplan@state.co.us	5.4	Comments on the draft 3/14 outline and 3/10 text of section 5.4 of Colorado's Water Plan from Conservation Colorado.	Comments in attached letter	Staff response: Staff passed the comment onto the CDPHE Water Quality Control Division, and will work to incorporate this and other comments to Section 5.4 into the revisions due to the Board in October.

Colorado's Water Plan - Input Received
between 3/4/14 and 5/2/2014

Item Number	Date	Input Provided By	Method of Input Submission	Related Chapters of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Responses and Recommendations
18	3/24/14	Mary Gardner, Colorado Wastewater Utility Council	Online General Input Webform at www.coloradowaterplan.com	5.4, 5.6.2, 6.1	Webform comment as follows: "The Colorado Wastewater Utility Council is submitting comments relating to water quality issues. The Colorado Wastewater Utility Council (CWWUC) is a nonprofit organization. Its mission is to professionally and responsibly promote environmental protection by supporting legislation and regulations which achieve well-defined environmental benefits while maintaining local flexibility. The CWWUC represents large, medium and small wastewater treatment facilities, state wide. "	Comments in attached letter	Staff response: The Colorado Wastewater Utility Council provided several comments. Several of the comments related to reuse were incorporated into Subsection 5.6.2 and those comments will be considered for incorporation into the October draft of that subsection. With regard to 208 Plan funding, CWCB staff will discuss this further with the CWCB Board in May, 2014. Funding will be incorporated into Section 6.1. CWCB staff would welcome the opportunity to better understand watershed permitting from the CWUC perspective. CWCB staff will further research the EPA's "agency interpretation of applicability of Section 402 of the Clean Water Act to Water Transfers". With regard to additional recommendations for permitting concerning the lengthy and uncertain permitting of reuse projects, CWCB staff will consider these for incorporation into the October draft of Section 5.10. Subsection 5.6.2 Reuse does support technical development for reclaiming wastewater.
19	3/25/14	Tricia Bernhard, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	4	Webform comment as follows: "I recently learned about the development of the statewide Colorado Water Plan and applaud the efforts that are being made. Water planning is of paramount importance in Colorado and is a complex issue. My personal concern is the issue of groundwater being used to meet the needs of growing urban populations. As we know, groundwater is generally considered to be a non-renewable resource and must be managed carefully to continue serving the needs of rural Colorado into the future. I am a land owner and resident in southern Douglas County near the headwaters of the South Platte River Basin. There is a potential disastrous groundwater extraction project looming in our area, often referred to as the Greenland Ranch water project. The owners of the groundwater (apparently the Anschutz and Malone families) obtained a water court decree in 1995 giving them the rights to extract 38,000 acre feet (AF) of groundwater per year from the Greenland Ranch area, PLUS, they can legally take that amount for every year since that time, presumably at one time! (Quick math comes to 722,000 AF of groundwater) That amount of groundwater mining, in my opinion, will forever change the aquifer system in this area. Residents and landowners in this part of southern Douglas County have no other potential sources of water. The Greenland Ranch water project is short sited and not a long term solution to water planning. I have repeatedly asked for help from Douglas County (water planner, commissioners) and the State Engineer to consider this matter carefully, to model this amount of groundwater extraction, to inform the public, to disclose information from the test wells and pump tests etc. My requests have met brick walls, primarily due to attorneys hired by the groundwater owners who are doing a good job of keeping most of the information confidential. That said, I would like to be involved in Colorado's water planning and am particularly interested in groundwater planning as a piece of the overall water supply scenario. Please let me know how my voice can be heard and how I can be involved. Are there round table discussions planned in the southern portion of the South Platte River Basin (Douglas County)? I did not see any on the schedule shown on the website. Thank you for your help and consideration."	N/A	Staff response: Nontributary groundwater is declining as indicated by the commenter. CWCB has funded studies including groundwater well monitoring in rural areas of Douglas County. CWCB agrees with the commenter that depleting bedrock aquifers is not a long-term solution, and Colorado's Water Plan and the South Platte / Metro Basin Implementation Plan will encourage renewable alternatives. As part of this, the Interbasin Compact Committee (IBCC) is exploring the use of the Denver Basin Aquifer as a drought reserve, and the South Metro Water Supply Authority has worked with Denver Water and Aurora Water on the WISE Partnership, which provides renewable water to urban areas within Douglas County. Any work on developing renewable water supply alternatives, or limiting the use of bedrock aquifers must be done under direction of the respective local land use authority.
20	3/27/14	Kent Holsinger, Holsinger Law on behalf of the Colorado Oil and Gas Association	Email to James Eklund; forward to cowaterplan@state.co.us	5.6.5	Colorado Oil and Gas Association's Position Paper on Colorado's Water Plan. The document was circulated to the Basin Roundtables as well.	Comments in attached letter	Staff response: CWCB staff appreciates the thoughtful comments from COGA and will work to incorporate the concepts into 5.6.5 Self-supplied industrial. CWCB will explore with the Colorado Energy Office the permitting suggestions made by COGA for the October draft version of Section 5.10.
21	3/27/14	Jan Cornwell, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	5.6.5	Webform comment as follows: " I see no mention of fracking. This uses lots of water. Where does the water come from? Obviously, the Colorado river. What impact does this have of the quality of the remaining water in the river? And many more questions. I was told last night at the meeting in Frisco, CO, that this is a political question. Yes, of course it is. But, Isn't this the time to look at all sides of the issue? Please include some information in your web site and PLEASE include something about it in the basin plan. "	N/A	Staff response: Fracking will be discussed in Subsection 5.6.5 Self-supplied industrial and will be further discussed in SWSI. Fracking currently uses approximately 18,000 acre feet per year, which is a very small proportion of Colorado's overall water use. However, there may be some areas where there are greater regional effects. In addition, power plants that burn natural gas to make energy use less water than traditional power plants. Therefore, from an overall resource management perspective, fracking and the resulting energy production do not consume a significant amount of water compared to current levels. Under Colorado's constitution there is a right to use water for beneficial purposes if it is available. Colorado's Water Plan is not geared toward restricting specific beneficial uses such as fracking.

Colorado's Water Plan - Input Received
between 3/4/14 and 5/2/2014

Item Number	Date	Input Provided By	Method of Input Submission	Related Chapters of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Responses and Recommendations
22	3/28/14	Eddie Kochman, Colorado Citizen	Email to Craig Godbout & Linda Bassi; forwarded to cwaterplan@state.co.us	5.3, 5.6.5, 5.9, 6.1	Text from email: "I have attached my comments and recommendations for input into the Colorado State Water process. I did attend the recent Fairplay meeting. Since my major input concerns stream, rivers and aquatic habitats I am also providing a copy to Linda Bassi. Thank you again for the presentation and opportunity for input. I hope members of the Board are taking the time to read the various public comments."	Comments in attached letter	Staff response: The CWCB will pass the comments related to encouraging a strategic look at environmental needs to the South Platte and Metro BRTs and CWCB's Stream and Lake Protection Section. With regard to funding, this will be further explored in Section 6.1 including the Instream Flow Acquisition Program and opportunities to support monitoring. The commenter asked if riparian areas could be protected with instream flows. Although not fully tested, instream flows can be designed to directly benefit riparian areas, and the CWCB Stream and Lake Protection Section will discuss the issue with the CWCB Board in May, 2014. CWCB has been working with the BLM to design an approach to in-stream flows by providing a flood flow component in the spring. Comments related to watersheds will be incorporated into Section 5.3. The CWCB will use the Source Water Assessment and Protection Plan (SWAP) in the Upper South Platte as an example and will consider funding for SWAPs as part of the recommendations. CWCB staff will discuss with the CWCB Board in May, 2014 the issues related to both SWAP and 208 plans. Regarding the comments related to fracking: Fracking will be discussed in Subsection 5.6.5 Self-supplied industrial and will be further discussed in SWSI. Fracking currently uses approximately 18,000 acre feet per year, which is a very small proportion of Colorado's overall water use. However, there may be some areas where there are greater regional effects. In addition, power plants that burn natural gas to make energy use less water than traditional power plants. Therefore, from an overall resource management perspective, fracking and the resulting energy production do not consume a significant amount of water compared to current levels. Under Colorado's constitution there is a right to use water for beneficial purposes if it is available. Colorado's Water Plan is not geared toward restricting specific beneficial uses such as fracking.
23	3/31/14	Harlene Michaels, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	5.6.1, 5.6.4	Webform comment as follows: "Promote aquaponics, as it is an extremely waterwise method of growing food. Require all new construction to collect roof water, as a huge percentage of our water is lost to evaporation. Collecting roof water and storing it until used and returned to the aquifer could increase our water supply tenfold, according to statistics I heard at a water basin roundtable. Consider other methods of limiting evaporation in agriculture, such as heavy mulching."	N/A	Staff response: The commenter's suggestion to further explore aquaponics is an interesting one, however it will not be able to fully meet our agricultural needs in 2050. However CWCB will discuss with the Colorado Dept. of Agriculture's regarding any programs to support aquaponics. Rainwater harvesting does have some limitations within current Colorado water law. However, CWCB maintains a pilot program to explore how rainwater harvesting can be used. This is further discussed in Subsection 5.6.1. The commenter is also concerned with agricultural water conservation such as mulching, and this is further explored in Subsection 5.6.4.
24	4/1/14	David Smeltzer, Retired Division of Wildlife Fish Hatchery Manager	Online General Input Webform at www.coloradowaterplan.com	5.9	Webform comment as follows: "I attended the March 5, 2014 South Platte Basin Roundtable meeting and heard much informative information and Q&A sessions. After the meeting I spoke to one of the roundtable speakers about my concerns that if we are to have healthy rivers and aquatic environments that always rate high on our quality of life issues in Colorado we must require that minimum water flows remain in most all of our rivers and streams. The speaker told me that information would be highly desireable in the decision making process, but they didn't have the time, money or biologist resources to establish those parameters. I told her that I was sure that the Department of Parks and Wildlife biologists already had a very good idea of those minimum stream flow parameters and would inquire about that issue. I recently spoke with Ken Kehmeier, Senior Fisheries Biologist for the South Platte Basin and he informed me that the DPW in fact does, and has for years, researched and established firm minimum stream flow parameters for almost every stream reach in Colorado, especially head water streams. This information I feel is critical to knowing what minimum water flows must be maintained in our rivers and streams for healthy fish, insect, and riparian habitats. Our streams and rivers are vital to Colorado's quality of life and should not be dewatered below those levels and therefore would establish a baseline for what water would be available above those baselines for use in all other municipal, agricultural or industrial needs. Planning for useable water supplies without following the healthy aquatic baselines would be irresponsible in the least and a waste of time and money in the planning process you have deemed so important to sensible growth and a quality of life issues for all of Colorado. I urge everyone involved in this water planning endeavor to make this statewide minimum stream flow data foremost in importance and vision in this critical process. "	N/A	Staff response: CWCB has worked closely with Colorado Parks and Wildlife and runs the Instream Flow Program. Staff will communicate with Ken Kehmeier to determine if there is additional content that should be included Colorado's Water Plan related to this issue.
25	4/1/14	Mark Snyder, Colorado Citizen	Email to cwaterplan@state.co.us	5.6.4, 5.9	Text from email: "Water usage is an important issue that effects us all, especially those of us who use the water for recreation. I'm concerned that the Colorado Water Plan is not taking sufficient steps to protect and restore rivers and the tourism and recreation opportunities they provide. I am in support of a Water Plan that is consistent with Governor Hickenlooper's focus on "a strong environment that includes healthy watersheds, rivers and streams, and wildlife." Please advance a Water Plan that keeps Colorado's rivers healthy and flowing, increases water recycling and conservation programs, protects our farms and ranches by making agricultural water use more efficient, nd find ways to improve flows for river health and our recreational economies."	N/A	Staff response: Colorado's Water Plan supports values concerning recreation and agriculture. Recreational projects will be explored within Section 5.9 and agricultural conservation will be explored in Subsection 5.6.4.
26	4/2/14	Dave Miller, Natural Energy Resources Company	Email sent to James Eklund, forwarded to cwaterplan@state.co.us	5.11	Letter regarding "Colorado's ignored sustainable water and energy solutions"	Comments in attached letter	Staff response: Many of the concepts and motivations behind the commenter's proposal are similar to the latest IBCC work. However, to move the commenter's specific concept forward with modeling will require either the project proponent to model it on his own, or stakeholder support for it.

Colorado's Water Plan - Input Received
between 3/4/14 and 5/2/2014

Item Number	Date	Input Provided By	Method of Input Submission	Related Chapters of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Responses and Recommendations
27	4/2/14	Bart Miller, Western Resource Advocates	Online General Input Webform at www.coloradowaterplan.com	3, 5.6.1, 5.6.2	Webform comment as follows: "Please see the attached document -- labeled "March 18 CWCB board meeting" -- which are talking points for the short comments I provided at the recent board meeting. -- Thanks "	Comments in attached letter	Staff response: Staff appreciates Western Resource Advocates' comments. Concerning further detailing the "gap", the Basin Implementation Plans should allow for greater detail. The Best Management Practices provided by WRA and other conservation groups were passed on to the BRTs and the initial draft Chapter 5.6 explores conservation and reuse. Colorado's Water Plan suggests that at a minimum and in the near term, Colorado should seek to implement "medium" conservation practices while acknowledging that in the future "high" levels of conservation may be needed depending on which scenario presents itself in Colorado.
28	4/3/14	James Lochhead, Front Range Water Council	Letter to John Stulp, Rebecca Mitchell, and Jacob Bornstein; forwarded to cowaterplan@state.co.us	5.11	Letter regarding the "New Supply Discussion"	Comments in attached letter	Staff response: Comments from the FRWC regarding the work of the BRT Chairs has been helpful. The letter was provided to the chairs and they plan on responding that the work was conceptual in nature. The CWCB appreciates the participation of FRWC members in furthering these discussions at the IBCC meetings.
29	4/4/14	Melinda Kassen, on behalf of several conservation organizations listed in the summary	Email to Kate McIntire, forwarded to cowaterplan@state.co.us	5.6	The attached document details some best practices that several conservation organizations put together and asked us to send to the Basin Roundtables. The participating organizations include Western Resource Advocates, Environmental Defense Fund, Conservation Colorado, and several other NGO's. They relied upon the IBCC letter to the Governors and No/Low Regrets strategies to extract this list of best practices.	Comments in attached document	Staff response: The CWCB appreciates the efforts of Conservation Colorado and other non-governmental organizations in putting together these Best Management Practices. These were sent to the BRTs for consideration.
30	4/4/14	Gene Watkins, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	4	Webform comment as follows: "Reducing evaporation from non-recreation reservoirs: You may want to examine use of a thin plastic membrane (similar to bubble wrap) to cover the non-recreation reservoirs surface during non-frozen months. A huge amount of water could be saved by avoiding the evaporation from those reservoirs and this is a simple, effective and (relatively) cheap way to save that water. Total evaporation loss is about 2.5 million acre feet. If you use this (or some) method to avoid a material portion of that loss, and increase the places that are barred from recreational use (and thusly available for anti-evaporation efforts) you will have saved a lot of water. UV damage will likely require annual new membranes, but you can recycle the plastic for some cost recovery. "	N/A	Staff response: CWCB agrees with the commenter that evaporation loss is significant. A number of potential solutions have been explored over the years. Unfortunately, there is not currently a technically or financially viable option.
31	4/4/14	Carey Barta, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	5.6.1, 5.9	Webform comment as follows: "I am willing to Xeriscape where I can but would still like to see trees and green grass. I would love to preserve the water rec for when my son is able to play on water (ski, raft), and maybe his children. Maybe advertise what happens in 20+ years with our current water consumption. Wake some people up. The automatic faucets in bathrooms really do help, I think! "	N/A	Staff response: The comments expressed are consistent with many of Colorado's Water Plan values. Colorado needs both vibrant cities with urban landscapes and robust recreation and tourism.
32	4/4/14	Jeffrey Winters, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	3	Webform comment as follows: "Here's a simple solution that will absolutely work to improve the situation with water supply Put A Complete Halt To Anymore New Housing Developments being built around the metropolitan area! (front Range) Colorado has reached capacity and simply can't accommodate any more people with the limited amount of water available. State officials knew the situation, and that Colorado needed some kind of building moratorium 20 years ago. Members of city and state governments will just have to stand up to the powerful home builders associations. If the construction industry wants to stay active in the area, they can revitalize older neighborhoods with remodels or build upgraded new homes on older established lots. The governor knows this example; When a bar or restaurant is filled to capacity with customers, that business will stop seating people, and puts patrons on a waiting list, the business doesn't try to cram in more tables and chairs, it just won't work, (kitchen and wait-staff can only accommodate a certain amount of people, without a complete breakdown in service.) Thank you for your consideration.	N/A	Staff response: 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.
33	4/4/14	Sue Provenza, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	5.6.1	Webform comment as follows: "Dear CWP, I would like to see the front range cities in this state make a concerted effort at xeroscaping and turning their water thirsty green lawns into food gardens (food security) by incentives (possibly tax credits?) and punishment (higher water rates), to show that they are serious about water conservation. You know, doing their part. Thank you for your consideration."	N/A	Staff response: Colorado's Water Plan encourages conservation and this is explored in Section 5.6.
34	4/4/14	Peter Morelli, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	5.6.1, 5.6.5, 5.7	Webform comment as follows: "I believe large-scale opportunities exist in Colorado to reduce water usage and maintain Colorado's values and lifestyle. 1. Reduce Residential Water Usage a. Change pricing structure of water to change consumer behavior i. Implement increasing marginal pricing of water 1. Unit price increases as usage increases b. Discourage water-intensive lawns & gardens in Denver's arid climate i. Promote aesthetics of desert-scape to improve acceptance c. Mandate / subsidize sales of water efficient faucets, shower heads, toilets, etc. in Colorado d. Distribute information on individual household usage relative to neighbors 2. Provide Industry Incentives to Conserve Water a. Agriculture i. Allow land owners to sell water rights to Colorado on a defined periods of time 1. When water is scarce, prices increase, land owners incentivized to sell water rights 2. When water supply increases, prices drop, land owners incentivized to cultivate land b. Oil & Gas i. If increasing marginal pricing implemented residentially, the same should hold for industry uses of water (even if unit prices differ between commercial and residential markets)"	N/A	Staff response: With regard to indoor water conservation and tiered rate structures, the vast majority of water providers currently operate with tiered water rates. As the commenter suggests, this is an effective means for conserving water. If recent legislation, such as the "Fixtures Bill" and "Turf Bill", become law, they will allow for further efforts for both indoor and outdoor conservation. Comments concerning agricultural sharing are incorporated in Section 5.7. With regard to oil and gas, many of the energy companies develop their own water sources and therefore municipal water providers have little control over oil and gas water usage.

Colorado's Water Plan - Input Received
between 3/4/14 and 5/2/2014

Item Number	Date	Input Provided By	Method of Input Submission	Related Chapters of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Responses and Recommendations
35	4/5/14	Emery Cowan, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	5.6.1	Webform comment as follows: "I believe it is vital that this plan consider the implementation of programs and regulations that serve to reduce water consumption among residents with both a carrot and a stick approach. I support tiered billing systems to encourage people to use less and programs like that used by Denver Water install water efficient fixtures in low-income homes for free. I think that residents across the state need to better recognize the value of water and part of that recognition, I believe, would come from higher water rates and a bigger emphasis on the need to conserve in the home. I also support actions like the initial language of a bill carried by Ellen Roberts this legislative session to limit the law size of new suburban developments across the state. There is no reason that we shouldn't start planning and implementing regulations that recognize the reality that we are facing a gaping water deficit and we need to change our consumption habits to adapt. I think state and local governments need to take a more strong willed approach to implementing regulations that will accomplish conservation goals. "	N/A	Staff response: With regard to indoor water conservation and tiered rate structures, the vast majority of water providers currently operate with tiered water rates. As the commenter suggests, this is an effective means for conserving water. If recent legislation, such as the "Fixtures Bill" and "Turf Bill", become law, they will allow for further efforts for both indoor and outdoor conservation.
36	4/6/14	Kyle Helton, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	5.6	Webform comment as follows: "Government recognition of xeriscaping, no more green lawns that only show off affluence without regards to the water needs of others. Orientation on CO climate for people from less arid areas. Cleaner waterways around the Denver area, with more protection for wetlands. Renegotiate water agreements with other Western states. Better fracking protection, conversations about water use in fracking. Water conservation earning tax credit. Tightening restrictions on land and water use so that water isn't being used improperly. Restrictions on plastics that require water to make. Public landscaping should be xeriscaped, but there should still be grassy areas for people to romp on (we would also be willing to romp on dirt/mud). More water conservation in kitchens and bathrooms; grey water in toilets; strategies to conserve while bathing, cleaning, etc. Give water priority to local farmers. "	N/A	Staff response: The commenter provides many interesting concepts, many of which are explored in Section 5.6.
37	4/7/14	Ken Neubecker, American Rivers	Email to Jacob Bornstein; forwarded to cwaterplan@state.co.us	5.9, 5.11	Text from Email: "I wanted to give you a heads up about the American Rivers listing of the upper Colorado river system in Colorado this Wednesday as the second most endangered “river” in the country. The impetus for the listing comes from the persistent calls for a “New Supply” diversion by Front Range entities. The focus is on the Colorado Water Plan, with the idea of getting as many more common citizens engaged as possible with protecting West Slope rivers and water supplies. I am attaching the press release that was sent out, as well as the report page that will be printed. The White River is being listed separately because of potential threats from energy development."	Comments in attached letter	Staff response: CWCB staff appreciates American River's informing us of their decision to list the Upper Colorado River as the second most endangered river in the country. Colorado's Water Plan will not have a specific transmountain diversion project as part of the plan. One of the driving forces behind development of Colorado's Water Plan is to create solutions that support these values: 1) vibrant and sustainable cities, 2) viable and productive agriculture, 3) a robust recreation and tourism industry, and 4) a thriving environment that includes healthy watersheds, rivers, streams, and wildlife.
38	4/9/14	Robert Rutkowski, Colorado Citizen	Email to cwaterplan@state.co.us	1, 5.6.1, 5.7, 5.9	Text from Email:"I am writing to ask that you insist Colorado’s rivers be protected through specific stream improvement projects identified in each river basin. These rivers include the Yampa, Green, Colorado, Fraser, Blue, Eagle, Fryingpan, Roaring Fork, and Gunnison Rivers. All of these rivers are now being targeted for potential new projects that could drain even more water to the Front Range. There simply is not enough water left to satisfy all the demands being made without irreparably damaging the health of our world-class rivers. The Colorado River and its major tributaries are the economic foundation of the West Slope of Colorado. Current diversions that move water across the continental divide already take more than half a million acre feet (over 160 billion gallons) each year. Other projects already in the works will drain even more. Colorado River headwaters see as much as 40 to 60 percent of their flow siphoned off by Front Range diversions. Additional diversions would take as much as 80 percent from some rivers when they are completed. These massive reductions in flow have left a wake of damaged rivers in the heart of Colorado’s most famous scenic and recreational areas. Yet the Front Range still demands more water. The Upper Colorado River itself is nearly sucked dry, so some interests are shifting their focus to the Yampa, Green, and Gunnison Basins. Any new diversion from the Colorado River basin in Colorado must be only a distant and last resort. There are many alternatives that must be employed first, including much greater conservation and efficient use of both municipal and agricultural water. Colorado’s Water Plan needs to incorporate these conservation essentials: * High levels of water conservation by urban water providers in their local plans * A more refined and accurate forecast of the Front Range’s municipal water “gap” * An emphasis on water re-use/recycling projects as the infrastructure of the future * Recognize that large new trans-mountain diversions from the Colorado River Basin are not the solution for filling the Front Range “gap” Colorado’s Water Plan must also recognize the need to quantify and provide for the real water needs of healthy rivers, streams, and a “strong environment.” The water needs and “gap” for municipal, industrial, and agricultural uses are well documented, but not for the non-consumptive needs of the environment and recreation. Providing for non-consumptive needs must be more than just “enhancements” added on to both existing and planned diversions. They must be plans in their own right, adding flow to damaged rivers. Flows need to meet the needs of healthy rivers and the species they support, not just “minimum flows.” We need to add specific measures in each basin that support nature and recreation when managing Colorado’s rivers. Colorado faces a difficult task in formulating the State Water Plan. It is imperative that we craft a plan that will provide the water needed for our communities, our farms, and our rivers. We need to think boldly, with a new vision and ideas that are truly innovative and pioneering. The status quo approach from the 19th and 20th centuries does not work. We must prepare for the future of Colorado. I urge you and the Colorado Water Conservation Board to take the needs of rivers and recreation seriously in this plan. We need to make sure that your declared Colorado value of “a strong environment that includes healthy watersheds, rivers and streams, and wildlife” extends to all the great rivers that make up the Colorado River.	N/A	Staff response: CWCB staff will clarify that Section 5.9 and the Basin Implementation Plans can include single purpose environmental and recreational projects. Many of the points made by the commenter are consistent with the values of Colorado’s Water Plan values, and the plan will encourage conservation, agricultural sharing, and the development of planned projects. Still, this may not be enough. The IBCC is exploring new ways to develop balanced projects that meet Colorado's future needs.
39	4/9/14	Camille Gilbert, California Citizen	Email to cwaterplan@state.co.us	5.9	Text from email: "As a supporter of American Rivers, Conservation Colorado, Western Resource Advocates, Friends of the Yampa, and High Country Conservation Advocates, I am writing to ask that you insist Colorado’s rivers be protected through specific stream improvement projects identified in each river basin. These rivers include the Yampa, Green, Colorado, Fraser, Blue, Eagle, Fryingpan, Roaring Fork, and Gunnison Rivers. All of these rivers are now being targeted for potential new projects that could drain even more water to the Front Range. There simply is not enough water left to satisfy all the demands being made without irreparably damaging the health of our world-class rivers."	N/A	Staff response: 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. 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.
40	4/9/14	Eric Johanson, Colorado Citizen	Email to cwaterplan@state.co.us	General	Text from email: "Can you suggest a resource that shows all the water sources and needs for Colorado and the sharing states?"	N/A	Staff response: CWCB staff suggests that the commenter read the "Citizen's Guide to Interstate Compacts" published by the Colorado Foundation for Water Education.

Colorado's Water Plan - Input Received between 3/4/14 and 5/2/2014							
Item Number	Date	Input Provided By	Method of Input Submission	Related Chapters of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Responses and Recommendations
41	4/10/14	Melinda Kassen, WaterJamin Legal & Policy Consulting	Email to cewaterplan@state.co.us	5.4	Conservation Colorado's Comments on Chapter 5.4 Water Quality of Colorado's Water Plan.	Comments in attached letter	Staff response: These comments were incorporated into the current draft of Section 5.4 by the CDPHE Water Quality Control Division.
42	4/10/14	Mary Keyes, Northwest Colorado Council of Governments (NWCCOG)	Email to Jacob Bornstein and Rebecca Mitchell; forwarded to cewaterplan@state.co.us	5.4	NWCCOG's comments on the April 2, 2014 draft Section 5.4 Water Quality.	Comments in attached letter	Staff response: These comments were incorporated into the current draft of Section 5.4 by the CDPHE Water Quality Control Division.
43	4/13/14	Maria Strausbaugh, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	5.2, 5.4	Webform comments as follows: " I believe it is completely irresponsible for the Front Range to continue to want to take more and more water from the western slope. Whatever happened to being stewards to the environment? The wildlife, a large source of revenue for this state, can not speak for itself. It's time we take a good hard look at what is going on here. As a resident of the Vail Valley, I see how the drought years affect us and the environment. Why should we suffer more while Denver just takes and takes. It's time to restrict their water supply. We have watering restrictions, fines, etc. every season even when no water supply emergency is in place. Why not Denver? It's time to learn to make due with what is available and stop the waste and the insanity. "	N/A	Staff response: Denver Water has restrictions and associated fees every year, even when there is not technically a drought. Colorado's Water Plan will encourage conservation, reuse, agricultural sharing, and implementing planned projects. However, this may not be enough, so Colorado must plan for additional options in the future.
44	4/14/14	Kent Brakken, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	4, 5.6.1, 5.6.2	Webform comment as follows: "I have not YET read the Plan; however, I have comments that may be useful to the planners. I trained in the natural resources: BS, Soil Science, U of Wisconsin, Madison; MS, Forest Ecology, U of Washington, Seattle; and PhD, Range Science, Colorado State University. I mapped soils in Colorado, San Juan NF and worked on timber harvest, mining and prescribed burning projects, White River NF. I have worked on mining, mine permitting clean up of mixed waste industrial sites in Colorado and in some 20 other US states. What are my thoughts on long-term water use planning for the State of Colorado? 1. Niobrara Aquifer: Increasing rates of water withdrawal have raised concerns about sustainability of yields from Denver Basin aquifers. I suggest that ground water from the Niobrara Aquifer is being pumped, withdrawn and used at rates that will limit the land uses currently using that water. I suggest that the State of Colorado (hereafter referred to as State) work with the other states using that aquifer and an/implement the best long-term use of that and other Colorado aquifers used by western states. 2. I have seen cases in which a Colorado municipality waters, that is, sprinkle irrigates municipal street grass median to the point where excess irrigation water drains into the street and down the waste water drains. I suggest that irrigation policies be implemented to save this precious water resource. 3. Subject: Gray Water. I built a home in Delta County, CO. I wanted to use the Gray Water from my home (as compared to Black Water) to irrigate trees I planted around my house. The Colorado sanitary regulations apparently did not allow me to do that. I suggest that those regulations be changed to the end that a home owner can use sanitary Gray Water to irrigate trees and landscaping plants. 4. I suggest that the State draft and implement regulations not just allowing, but rather encouraging land developers to separate Gray Water from Black Water and build facilities to treat and then beneficially used Gray Water in Colorado housing and home building projects. 5. In Las Cruces, NM, I saw expensive homes using xeriscape plants and xeriscape landscaping designs. Apparently, Las Cruces, NM encourages that water conservation alternative. I suggest that the State and Colorado municipalities aggressively support the conversion of Kentucky bluegrass irrigated lawns to xeriscape conditions. I suggest that the State and affected municipalities reimburse home owners the cost of converting said bluegrass lawns to xeriscape vegetation for the purpose of conserving water. I suggest that home owners desiring to pour valuable water on bluegrass lawns be charged a much greater cost for that land use in order to encourage home owners to change that behavior, to conserve water and reduce water charges for themselves. 6. I suggest that Colorado industries and individual businesses be encouraged to reduce water use through State environmental permitting and compliance regulations. Industries/businesses that conserve water should be encouraged, while industries/businesses that contaminate and/or waste water should be discouraged. 7. I suggest that the State should look to sources of water in the Midwest and be involved in the purchase and transport (large water pipelines) from Midwestern sources. Given that this will result in interstate agreements, the Federal Government will almost certainly be involved in the planning and implementation of said long-term water agreements.	N/A	Staff response: 1) Colorado's groundwater resources are important and will be discussed in Section 3 Water Supply. Colorado's Water Plan will encourage development of renewable resources. 2) Outdoor conservation is an important aspect of Colorado's Water Plan and is explored in Subsection 5.6.1. Local land use control must be respected at the same time. Land use related issues are described in Subsection 5.6.3. 3) Graywater is discussed in Section 5.6 as well. 4) CWCB staff will discuss with the CWCB Board in May, 2014 opportunities to "encourage land developers to separate graywater from blackwater and develop facilities to treat and beneficially use graywater." 5) Outdoor conservation is explored in Subsection 5.6.1 and the "Turf Bill" provides an opportunity to further explore options for outdoor water conservation. CWCB staff will discuss with the CWCB Board in May, 2014 opportunities to further incentivize xeriscaping. 6) Many municipalities are working with individual businesses to reduce municipal water use. 7) Water sources from the Midwest have been explored and are not currently viable at this time.

Colorado's Water Plan - Input Received
between 3/4/14 and 5/2/2014

Item Number	Date	Input Provided By	Method of Input Submission	Related Chapters of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Responses and Recommendations
45	4/15/14	Neil McLane, Natural Design Solutions, Inc.	Online General Input Webform at www.coloradowaterplan.com	5.6.1	Webform comments as follows: As a landscape architect who has promoted water conservation practices for over two decades, I would like to discuss some landscape water conservation measures for your consideration. Landscape water conservation: My company, Natural Design Solutions, has been able to reduce landscape irrigation needs for many of our clients from 25%-100%, depending on the type of groundcover selected. Bluegrass and other high water turf varieties typically require the greatest amount of supplemental water of any groundcover. Low-water turf varieties typically use about 25% less irrigation than bluegrass, whereas Xeric shrub beds use from 40-90% less water than bluegrass. Native grass mixes typically need some supplemental water for establishment, but can be taken off of irrigation once established. The cost of converting bluegrass turf to low water native grasses can pay for itself in less than 2 years. Tiered water rates can penalize heavy water users and provide the cost saving incentive necessary to switch from high water turf to low-water plant varieties. We have clients that have saved over \$30,000 in water fees in the first year after conversion of large bluegrass areas to native turf. Watering restrictions can also have a long-term affect on plant selection and water consumption. A 3-day/week watering restriction makes it very difficult to maintain a green turf in Summer months. A 2 day/week watering restriction can result in bluegrass browning out in the Summer heat. No one wants to have brown turf in the growing season, so the more these restrictions become the norm, the less we will see people opting for high-water turf. Daily restrictions can prevent larger properties from applying sufficient water to all sprinkler zones within the allotted time frame. Some of the most efficient sprinklers spread the water slowly, often with several cycles, reducing runoff and giving the water more time to infiltrate. Daily water restrictions can actually encourage waste, providing a disincentive for using these low-water sprinklers and encouraging the use of sprinklers that apply the maximum amount of water in the shortest time. An annual water budget could be more flexible than daily restrictions, and would allow users to be more creative in reducing water consumption, while effectively providing for the needs of landscape plants. The main problem with water budgets is in being able to track consumption, as well as separating irrigation from potable water consumption. The expense of adding a separate meter for irrigation can be prohibitive. Rainwater harvesting: Colorado interprets prior appropriation law as prohibiting rainwater harvesting, whereas in neighboring New Mexico, which also ascribes to the "prior appropriation" model, this practice is strongly encouraged. Rain water detention is permitted in Colorado to reduce peak storm water discharge rates. Detention is permitted, but retention is not, unless you own the water rights. Since any water harvested for irrigation will be applied to the land within a short time frame, rainwater harvesting does not affect the total volume of water entering a watershed, it only reduces peak flow rates that have been exacerbated by development. Could we not simply reclassify rainwater harvesting for landscape irrigation as detention? No harm no foul to downstream water rights holders. In a world with limited water resources, landscape irrigation is one of the least essential water uses, yet landscape irrigation accounts for about half of urban water use. With limited resources, landscape irrigation should not compete for potable water resources. A truly sustainable landscape is one that can survive after the tap is shut off. Through creative incentives and regulation we can reasonably anticipate a 50-75% reduction in landscape water consumption.	N/A	Staff response: The vast majority of municipalities already utilize tiered water rates and Colorado's Water Plan will further encourage the use of water budgets. The "Turf Bill" provides an opportunity to explore additional options for outdoor water conservation. 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. It sounds like the commenter may have some photos representing low water use landscapes and CWCB would appreciate receiving any of those photos for inclusion in its documents.
46	4/16/14	Scott Canby, Colorado Citizen	Email to James Eklund; forward to cowaterplan@state.co.us	5.6.1	Text from email: "Mr. Eklund - I recently heard your interview and discussion on CPR regarding the states plans for managing our future water needs - a subject I have a great deal of interest in I am a Manufacturers Rep in Colorado and I thought you might find the following low water grass seed product of interest - add it as another arrow in your quiver I was introduced to Pearls at the US Greenbuild Expo several years ago: FYI http://www.pearlspremium.com "	N/A	Staff response: The CWCB appreciates the link to low maintenance and low water use grass products provided by Pearls Premium.
47	4/17/14	Doug Nelson, Colorado Citizen	Email to cowaterplan@state.co.us	1, 5.6.1, 5.6.4, 5.9	Text from email: "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." "	N/A	Staff response: The comments are consistent with the values guiding Colorado's Water Plan, which are: 1) vibrant and sustainable cities, 2) viable and productive agriculture, 3) a robust recreation and tourism industry, and 4) a thriving environment that includes healthy watersheds, rivers, streams, and wildlife.
48	4/17/14	Kevin McBride, Upper Yampa Water Conservancy District	Online General Input Webform at www.coloradowaterplan.com	5.11	Letter to the Yampa/White/Green Basin Roundtable (YWGBRT) regarding their support for the YWGBRT's White Paper.	Comments in attached letter	Staff response: The CWCB will send the Upper Yampa Water Conservancy District's letter to the YWGBRT. These comments also helped inform the IBCC discussion during the April 29, 2014 IBCC meeting.
49	4/18/14	Genia Gallagher, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	5.6.1, 5.6.5	Webform comments as follows: "While obtaining my Masters in History from Regis University I developed a course on History of Water in the West which opened my eyes to the issues that face many of the states in the region. Upon further research into how Colorado is addressing this "gap", I realized that the way water is viewed by most Coloradans does not match reality and to adequately provide a sustainable water future for 2050 and beyond this "water ethic" must be changed. Thus, I developed the attached position paper. My husband have lived in Colorado since 1996. The first 9 years in Boulder, where I children graduated from High School. Since 2004, we have lived in Summit County and our children remain in the Denver area. In the next several years my husband and I intend to return to Denver to live. Given this, I am able to see the rationale behind each of the basins demands; however, as a realist understand that it is impossible to meet them all while attaining sustainability. This makes the need for a new water ethic critical when devising the Colorado Water Plan. "	Comments in attached letter	Staff response: Fracking will be discussed in Subsection 5.6.5 Self-supplied industrial and will be further discussed in SWSI. Fracking currently uses approximately 18,000 acre feet per year, which is a very small proportion of Colorado's overall water use. However, there may be some areas where there are greater regional effects. In addition, power plants that burn natural gas to make energy use less water than traditional power plants. Therefore, from an overall resource management perspective, fracking and the resulting energy production do not consume a significant amount of water compared to current levels. Under Colorado's constitution there is a right to use water for beneficial purposes if it is available. Colorado's Water Plan is not geared toward restricting specific beneficial uses such as fracking. With regard to conservation, 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. If helpful, CWCB staff would be happy to present as part of a Regis University course.

Colorado's Water Plan - Input Received
between 3/4/14 and 5/2/2014

Item Number	Date	Input Provided By	Method of Input Submission	Related Chapters of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Responses and Recommendations
50	4/19/14	Kristin Martinez, Metro State University	Online General Input Webform at www.coloradowaterplan.com	5.6.1, 5.6.5	Webform comments as follows: "In seeking a solution toward viable and productive agriculture, have different methods of irrigating Front Range farmland been discussed? No doubt many farmers currently rely on flood or pivot systems to irrigate crops. Could these systems be converted to subsurface drip (SDI) systems? SDI systems surpass the previously mentioned irrigation systems' efficiency by at least 90%. Subsurface systems are well suited to arid climates; at the same time increasing crop yield. They use far less water due to being below ground at root level, don't create runoff, and do away with water loss through evapotranspiration. Admittedly, the systems take a lot of effort to install, and much dedication to maintain. However, when cared for properly, they can last nearly as long as standard pivot systems, according to CSU's extension program. If agriculture is in fact essential to Colorado's way of life, and if the city is considering paying farmers for their water rights, could Denver not invest in setting up better, more efficient irrigation systems for farmers? In this way, water is saved and agriculture is likewise preserved. The fact that the majority of our states' water is consumed by agriculture might be a reflection of outdated and wasteful growing methods, not requiring such drastic measures as buy and dry. Yet speaking of buy and dry . . . Would the city also consider paying metropolitan businesses and residences to "dry" up their ground and install zero scape lawns (similar to what the city of Las Vegas has done with its citizens)? Agreed, agriculture stands as the biggest water user, but farmers should not be the only ones to feel the pain of supply and demand. Most Denverites don't give heed to the serious task of stewarding their water - not as a farmer must. Why aren't local industries/municipal users being asked to sacrifice their lifestyle or adjust their operations? How Colorado deals with agriculture will make the water difference; that is clear. But can Colorado's water plan please ask urban users to take ownership of their consumption, in addition to solving it by diverting farm water? That is the kind of plan I would choose to support.	N/A	Staff response: With regard to agricultural conservation, several methods including drip irrigation are explored in Subsection 5.6.4. In some cases drip irrigation can and is being used to reduce soil moisture loss. However, because many agricultural lands are under watered, when efficiency practices are used, water use also increases. Also, in many instances, modifying agricultural practices can have a negative impact to stream flows, riparian areas, and downstream agricultural users. Nonetheless there are some recommendations explored in the aforementioned subsection. With regard to your concerns related to outdoor municipal water conservation, staff will discuss xeriscape incentives with the CWCB Board in May, 2014 as mentioned above in comment #44.
51	4/21/14	George Sibley, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	1, 5.11	Webform comment as follows: "You have sites for those wanting to speak up about ag water, enviro/rec water and muni/ind water, but where is the site for those wanting to talk about a balancing of all three? And what ag might feel justified in asking from muni/ind water providers before accepting the inevitability of ag transfers, and what enviro/rec might do to pay for the free ride it gets on ag's ecosystem services, etc etc...? Where in other words do we go if we to try to transcend the 'silos' and start getting integrative about this situation? "	N/A	Staff response: The CWCB has received many comments regarding the important connections mentioned in the email through the Submit General Input Form at https://www.colorado.gov/pacific/cowaterplan/form/general-input-colorados-water-plan . Colorado's Water Plan will also provide solutions across the different sections of the plan, and recognize that many issues are interrelated. The CWCB welcomes all comments no matter the content. However, in order to keep the website organized the CWCB chose not to create separate webpage input forms for every possible type of content that could be submitted and have received great, diverse response through the general input webform. All commenters can review all of the input received to date at https://www.colorado.gov/pacific/cowaterplan/record-input-received-date . Several key stakeholder groups specifically requested that the CWCB create guides for input outlining what input might be most effective coming from those groups. For all of those groups, the way to submit input is still through the general input webform. The CWCB will continue to review and update the guides based on the perspective provided in the email and on other comments received. At this time the CWCB advises the commenter to direct people to use the "Submit General Input Webform" or send an email to cowaterplan@state.co.us for comments that might span stakeholder groups and issues.
52	4/22/14	Eric Hecox on behalf of the South Metro Water Supply Authority	Email to cowaterplan@state.co.us	5.7, 5.8, 5.10, 5.11	Text from email: "Please find attached South Metro Water Supply Authority's input to Colorado's Water Plan. This document was unanimously approved by the South Metro board at yesterday's regular monthly board meeting. Please let me know if you have any questions or if additional information would be helpful. A special thanks to CWCB, the IBCC, and the roundtables for their leadership in this important effort."	Comments in attached letter	Staff response: 1) With regard to agricultural transfers, Colorado's Water Plan will stress the importance of adding additional options to buy and dry. 2) SMWSA's comments were incorporated into the draft Section 5.10 released in May, 2014. 3) CWCB appreciates the hard work SMWSA has done in updating the IPPs. 4) The comments concerning "new supply" are largely consistent with the IBCC's recent discussions. The CWCB will consider the suggested funding mechanisms in Section 6.1. The letter will be passed on to the South Platte and Metro BRTs.
53	4/22/14	Kevin McCarty on behalf of the Little Thompson Watershed Restoration Coalition	Email to Chris Sturm, Rebecca Mitchell and Sean Cronin; forwarded to cowaterplan@state.co.us	5.3, 5.8, 5.9	Text from email: "I have authored the attached document on behalf of LTWRC. While this document comes off as critical of planning efforts as it relates to our watershed, it is not directed at any particular party. In fact, I think the lack of involvement in the state water planning efforts by water users within our watershed makes us as culpable as anyone, including me. I deal with water rights in my job and it has taken this flood and the subsequent planning efforts to understand a lot of the details about the water supply issues confronting this watershed. But, at this point we are just scratching the surface on water use and water supply issues and further study is warranted. Tetra Tech will be providing some basic hydrologic information as part of their master plan, but it doesn't appear it will go into the level of detail necessary to fully understand issues such as the impact exempt wells may be having on surface water flows (among other areas of study). Their scope of work certainly does not cover exploring water supply alternatives such as in stream flow potentials, possible reservoir sites and how NCWCD could fit into the water supply picture. I would ask CWCB's opinion on what strategy we might want have if we apply for an additional grant to include water supply planning as part of our master planning effort. I know a lot of these master planning efforts, including ours at this point, are focused on the river and riparian area and not on water use and supply. However, it is hard to think about restoration of the Little Thompson without considering the serious water supply issues which exist here."	Comments in attached letter	Staff response: We appreciate calling attention to the issues in the Little Thompson Watershed and suggest that the commenter seek a Water Supply Reserve Account grant through the South Platte Basin Roundtable. Partnerships such as with the Northern Colorado Water Conservancy District often help applications be successful. CWCB staff will pass this on to the South Platte BRT.

Colorado's Water Plan - Input Received
between 3/4/14 and 5/2/2014

Item Number	Date	Input Provided By	Method of Input Submission	Related Chapters of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Responses and Recommendations
54	4/22/14	Eddie Kochman, Colorado Citizen	Email to Craig Godbout; forwarded to cewaterplan@state.co.us	5.9	Text from email: "Please include the attached comments into the record regarding the Colorado Water Plan process. They were submitted to the Parks and Wildlife Commission at their April meeting in Salida."	Comments in attached letter	Staff response: With regard to 5.9, 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. Although not fully tested, instream flows can be designed to directly benefit riparian areas, and the CWCB Stream and Lake Protection Section has been working with the BLM to design an approach to in-stream flows by providing a flood flow component in the spring. - instream flows conserve riparian areas. With regard to conservation, 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.
55	4/22/14	Elizabeth Maslow, Colorado Citizen	Email to cewaterplan@state.co.us	5.9	Text from email: "I recently visited Drakeland Farms wetland project and was impressed at the mitigation efforts to help birds and water quality with South Platte filtered water. This wetland restoration project is a model program. U.S. Fish and Wildlife are involved with the program and both the South Platte and wildlife will benefit. In assessing future water needs, this type of mitigation to help both conservation of wildlife and water quality should be attached to consumptive water needs assessment. Why not have a required mitigation measurement attached to consumptive water? For example, Chatfield storage does not seem to have a concrete mitigation plan attached to the acre feet of water storage. I propose attaching a mandatory percentage of water measurement that is used for nonconsumptive uses. We need units of measurement for the environment to prevent future damage. Chatfield reservoir will be a glaring example of poor management if mitigation is not included or better storage choices are not considered. Thanks for your attention."	N/A	Staff response: All projects, including over \$150 million for Chatfield, have mitigation aspects and need to consider alternatives under the National Environmental Policy Act. The example provided by the commenter is a good one, and CWCB staff will pass it on to the South Platte and Metro BRTs and the CDPHE Water Quality Control Division for consideration in their work.
56	4/23/14	Melinda Kassen, WaterJamin Legal & Policy Consulting, on behalf of a number of non-governmental organizations	Email to John Stulp, Rebecca Mitchell, and Jacob Bornstein; forwarded to cewaterplan@state.co.us	5.11	Text from email: "Please find attached a letter from a number of non-governmental organizations in response to the Front Range Water Council's letter to the CWCB on April 3rd."	Comments in attached letter	Staff response: Colorado's Water Plan will not have a specific transmountain diversion project included in it. The write-up in the water plan concerning transmountain diversions will be dependent on the IBCC discussions which are still ongoing.
57	4/24/14	Robert Garnett, Baca Grande Property Owners Association	Email to James Eklund; forward to cewaterplan@state.co.us	Rio Grande BIP, 5.9	Letter from the Baca Grande Property Owners Association regarding non-consumptive in-stream rights.	Comments in attached letter	Staff response: CWCB staff will pass the letter on to the Rio Grande BRT and CWCB's Stream and Lake Protection Section.
58	4/24/14	Deborah Reed, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	5.6.1	Webform comments as follows: "Municipalities and other governmental and public entities should be required to install moisture meters and/or take any other measure(s) necessary to ensure that watering on its properties, parks or other public lands do not take place when it is raining, or any day after a substantial rainfall. Very frequently sprinklers servicing medians, parks and other landscaped public areas are running during rainstorms or the day after a rainstorm. The monitoring guidelines should apply even if non-potable water is used."	N/A	Staff response: CWCB staff will pass this comment on to the Roundtables for consideration.
59	4/25/14	Melinda Kassen, WaterJamin Legal & Policy Consulting, on behalf of Conservation Colorado	Email to cewaterplan@state.co.us	5.4	Conservation Colorado's comments on Section 5.4 Water Quality of Colorado's Water Plan.	Comments in attached letter	Staff response: These comments were incorporated into the current draft of Section 5.4 by the CDPHE Water Quality Control Division.
60	4/26/14	Mary Keyes, NWCCOG	Email to cewaterplan@state.co.us	5.4	Text from email: "Northwest Colorado Council of Governments appreciates all the work that you have put into preparing the water quality section of the Colorado Water Plan. We know that the timeframe is incredibly short and appreciate the attention you have given to our other comments. We offer a few more comments in track changes in the attached document that we think will provide more clarity to the document. Thank you again for the work that you are putting into this very important section of the plan."	Comments in attached letter	Staff response: These comments were incorporated into the current draft of Section 5.4 by the CDPHE Water Quality Control Division.
61	4/27/14	Chuck Downey, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	3, 5.6.1	Webform comment as follows: "Please do not allow any more water diversions from the western slope. Western Colorado has already given up too much water to the front range. Rather than diverting more water from the west, the front range needs to adopt strong water conservation measures. Also, how about limiting growth on the front range? I fail to understand how continued growth will improve the quality of life and make Colorado a better place to live. Thanks for listening."	N/A	Staff response: 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. With regard to conservation, 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.

Colorado's Water Plan - Input Received
between 3/4/14 and 5/2/2014

Item Number	Date	Input Provided By	Method of Input Submission	Related Chapters of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Responses and Recommendations
62	4/28/14	Ed and Terry Talbot	Email to cewaterplan@state.co.us	5.6.1, 5.7, 5.9, 5.11	Text from email: "We have a home in Grand Junction and the impacts from the gas drilling industry are extensive and negative. Our water is precious and needed for more than cheap gas! Gov. Hickenlooper has said that "every conversation about water should begin with conservation," and I could not agree more. Water is our most precious natural resource and we must take steps now to protect and preserve it in a way that will benefit Colorado's rivers, wildlife, recreation, agriculture, businesses and residents. As you oversee the creation of a plan to meet our future water needs, I urge you to prioritize the following goals: 1. Keep Colorado's rivers healthy and flowing. Colorado's rivers are an integral part of our unique heritage and way of life. Rivers support our wildlife, agriculture, and a multi-billion dollar tourism industry. Protecting and restoring our rivers must be a top priority. 2. Increase and prioritize efficiency and conservation. Finding ways to reduce our water usage is crucial to our ability to meet our growing water needs. State studies have shown that water providers will need to reduce current water use by 35% by 2050 in order to meet our future demands. Expand conservation incentives, increase indoor and outdoor efficiency and support recycling programs. 3. Modernize agricultural and water sharing practices. The state should support voluntary, compensated, and flexible water-sharing agreements between agricultural producers and growing communities while respecting their water rights, as well as incentives to improve agricultural infrastructure that benefits operations and rivers. 4. Avoid new, large, trans-mountain water diversion projects. Trans-mountain diversion projects that drain water from West Slope rivers to supply growing Front Range demands are controversial, costly and damaging. Prioritize conservation and reuse so we can make every drop count and avoid the need for these projects. Thank you for helping to keep these four goals at the forefront of Colorado's water plan drafting process."	N/A	Staff response: 1) 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. 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) With regard to conservation, 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. 3) Agricultural water sharing and modernizing agricultural efficiencies are aspects of Colorado's Water Plan and included in Section 5.7 and Subsection 5.6.4. 4) Colorado's Water Plan will incorporate conservation and reuse, however those strategies alone might not be enough to meet Colorado's future water needs. Additional balanced options need to be explored.
63	4/28/14	Dea Jacobson, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	5.6.4, 5.9	Webform comments as follows: "Concerns include availability of water for wildlife, wilderness and fisheries - both quality and quantity. Agriculture needs education/ help with water conservation measures. No question that conservation of existing resources is a big part of the solution. Building more water storage is too expensive. Some expansion may be feasible if it doesn't harm endangered and threatened or protected ecosystems. "	N/A	Staff response: 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. 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. With regard to agricultural conservation, those issues will be addressed in Section 5.6.4.
64	4/28/14	Conor Felletter, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	5.4, 5.6.4	Webform comments as follows: "The state needs to encourage farmers and ranchers using irrigation water to practice conservation methods. Only through conservation and better irrigation practices can Colorado meet the needs of its growing population and safe guard its rivers and wetlands. Colorado should work to retire lands that have poor drainage and contribute huge amounts of salt to the rivers. Colorado should encourage ranchers to use better irrigation practices and switch to dry land grazing animals like bison. Farmer should pay more realistic cost for their water rather than having it subsidized by tax payers. Subsidies should go to farmers and rancher who have shown a commitment to improving irrigation practices and being stewards in Colorado's future. "	N/A	Staff response: With regard to agricultural conservation, those issues will be addressed in Section 5.6.4. Agriculture often supports wetlands and rivers. Additional concerns about water quality are addressed in Section 5.4. The CWCB and many other states have invested millions of dollars in salinity control programs.
65	4/29/14	Theresa Conley, Conservation Colorado	Email to Kate McIntire, Brent Newman and Jacob Bornstein, forward to cewaterplan@state.co.us	5.4, 7	Text from email: "Hello. As you know, Conservation Colorado has been engaging on the development of Colorado's Water Plan, including submitting comments to the Water Quality Control Division (WQCD) on Chapter 5.4, Water Quality.The issue of quality is often overlooked in our water planning processes. I was excited to see the Governor's statement in the Ex. Order that "Colorado's water quantity and quality questions can no longer be thought of separately. Each impacts the other and our state water policy should address then conjunctively."That said, it would be great to have someone from the Division, perhaps Nicole Rowan, speak about the water quality chapter and aspects of the plan at a state or public meeting. I recently attended the DU Water Law Symposium which had a panel on the CWP which included James Eklund, Becky Mitchell, Linda Bassi and Ted Kowalski. No one presented on the quality chapter or on quality (certainly more pressing than compact questions). I noted the absence to both James as well as Andrew Todd, both of whom seemed to think that Nicole would have been a good addition. Seems like they just didn't think of adding someone on quality and not an intended omission. So, I respectfully request looping in more discussions on quality and perhaps someone from the Division on panels that address the water plan. It would compliment the robust discussions that are already happening."	N/A	Staff response: Thank you for the suggestion regarding water quality. Section 5.4 Water Quality will be released for public review at the May CWCB Board meeting. There will also be a staff presentation on the section during the May meeting. We will continue to incorporate this comment into future speaking opportunities.
66	4/29/14	Roberta Richardson, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	South Platte/Metro BIP, 5.8	Webform comments as follows: " Please stop the plans to expand the Gross Dam, we don't want our wild areas damaged, nor trucks running constantly creating noise and air pollution! Thank you! "	N/A	Staff response: CWCB staff will pass the comment on to the Metro and South Platte BRTs.
67	4/29/14	Stephanie Rayer, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	4, 5.6.1	Webform comments as follows: "When I looked over how much water we could lose I became worried about the growing population in Colorado and how it will effect us. It is very important to myself and others that we conserve as much as we can through our rivers and our wildlife. We need to make it a requirement that we make changes in our life styles to conserve water. Although this wont solve the problem completely, it's a good start. In addition to conserving in Colorado's households, I think it is important that we spend time studying the water supply in our basins so that we can look at this in a long term manner. I look forward to seeing what our future Colorado water plan will look like. "	N/A	Staff response: With regard to conservation, 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. As the commenter suggests, even with agricultural sharing projects and completing already planned projects, this may not be 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. Additionally, the CWCB has invested tens of millions of dollars to study water supply under various future conditions and developed models so that water supply issues can be understood over the long term.
68	4/29/14	Mindi Must, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	4, 5.6.2	Webform comments as follows: "1.Develop area groundwater in the basins and improve their management 2.recharge area groundwater basins 3. With recycled water we should increase the use. 4.delivery to drinkable supplies "	N/A	Staff response: The issue of reuse will be explored in Section 5.6.2 and CWCB staff will incorporate the commenter's thoughts on water supply into Chapter 4.

Colorado's Water Plan - Input Received
between 3/4/14 and 5/2/2014

Item Number	Date	Input Provided By	Method of Input Submission	Related Chapters of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Responses and Recommendations
69	4/29/14	Sierra Emanuel, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	4, 5.6.1, 5.8	Webform comments as follows: "Colorado is such a great place to live, but unfortunately we don't have the resources for unlimited growth. We need to seriously think about enhancing what we have instead of expanding. Conservation, reuse/recycling, and expansion of current reservoirs to catch excess water when we're lucky enough to have it, need to be the options explored. Water cannot be taken away from other communities any more than it already is. "	N/A	Staff response: Most of the commenter's thoughts on conservation and reuse are incorporated into Section 5.6. The BIPs will explore additional storage options.
70	4/30/14	Aaron Sturm, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	7	Webform comments as follows: "Most people don't know where there water comes from, that statement has twofold meaning. In Colorado most people don't know that snowpack is the primary reservoir for the entire state, and they don't know anything about the municipality that supplies clean water to their tap. I'm fortunate enough to work seasonally at a water treatment plan, I'm also minoring in water at my college and learning about water in ways that don't pertain to simply treating it. So this is cool, I know a lot about water, and a lot of people don't... why does that matter? What matters is that people don't. The only context many Coloradains can put water in, is that it comes out out of their faucets and sometime in August they get a letter telling them to water less, and their water bill goes up. I think that educating people about water scarcity in Colorado is key to making progress, after all any water plan has to involve the people using the water. Therefore I think that education needs to be a focus in any water plan, just as much (if not more so) tha policy. "	N/A	Staff response: The development of Colorado's Water Plan has helped to raise the level of importance placed on education and outreach statewide related to water supply planning. Additionally, there has been a significant level of outreach and education activity throughout each basin and statewide during the planning phase. Chapter 7 of Colorado's Water Plan will further demonstrate the need and provide recommendations for enhancing the coordination of outreach and education efforts throughout Colorado. CWCB staff will incorporate these comments while developing Chapter 7, due for draft public release in September, 2014.
71	4/30/14	Melissa Houser, Colorado Citizen	Online General Input Webform at www.coloradowaterplan.com	5.8, 5.9	Webform comments as follows: "Water should be reserved for sustainable organic food production, basic needs of people & animals, and for Mother Earth. Industries that are heavy water users should not be allowed to operate in arid regions. Any industry that is needed by the surrounding communities in an arid region should utilize technologies that use little or no water. "	N/A	Staff response: Colorado's Water Plan will not restrict beneficial use.
72	4/28/14 - 5/2/14	137 emails generated from individuals who submitted a form letter online through saveoureenvironment.org	Email to cwaterplan@state.co.us	5.6.4, 5.7, 5.9	Form letter text base: "Gov. Hickenlooper has said that "every conversation about water should begin with conservation," and I could not agree more. Water is our most precious natural resource and we must take steps now to protect and preserve it in a way that will benefit Colorado's rivers, wildlife, recreation, agriculture, businesses and residents. As you oversee the creation of a plan to meet our future water needs, I urge you to prioritize the following goals: 1. Keep Colorado's rivers healthy and flowing. Colorado's rivers are an integral part of our unique heritage and way of life. Rivers support our wildlife, agriculture, and a multi-billion dollar tourism industry. Protecting and restoring our rivers must be a top priority. 2. Increase and prioritize efficiency and conservation. Finding ways to reduce our water usage is crucial to our ability to meet our growing water needs. State studies have shown that water providers will need to reduce current water use by 35% by 2050 in order to meet our future demands. Expand conservation incentives, increase indoor and outdoor efficiency and support recycling programs. 3. Modernize agricultural and water sharing practices. The state should support voluntary, compensated, and flexible water-sharing agreements between agricultural producers and growing communities while respecting their water rights, as well as incentives to improve agricultural infrastructure that benefits operations and rivers. 4. Avoid new, large, trans-mountain water diversion projects. Trans-mountain diversion projects that drain water from West Slope rivers to supply growing Front Range demands are controversial, costly and \damaging. Prioritize conservation and reuse so we can make every drop count and avoid the need for these projects. Thank you for helping to keep these four goals at the forefront of Colorado's water plan drafting process."	A separate attachment was created for the Board packet including 137 emails	Staff response: Colorado's Water Plan will support Colorado's rivers as will be described in Section 5.9, address the need for increased conservation as described in Subsection 5.6.1, and the need for agricultural efficiencies and water sharing practices as described in 5.6.4 and 5.7. With regard to new transmountain diversion projects, the IBCC is exploring innovative ways to address this issue in a balanced manner. Scenario planning indicates that a new transmountain diversion may not be needed in the future, however some futures suggest that new transmountan 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 move forward with this option should it be needed, based on the IBCC's work.
73	3/18/14 - 4/28/14	8 emails generated from individuals who submitted a form letter online through Conservation Colorado	Email to cwaterplan@state.co.us	5.6.4, 5.7, 5.9	Form letter text base: "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 8 emails	Staff response: Colorado's Water Plan will support Colorado's rivers as will be described in Section 5.9, address the need for increased conservation as described in Subsection 5.6.1, and the need for agricultural efficiencies and water sharing practices as described in 5.6.4 and 5.7. With regard to new transmountain diversion projects, the IBCC is exploring innovative ways to address this issue in a balanced manner. Scenario planning indicates that a new transmountain diversion may not be needed in the future, however some futures suggest that new transmountan 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 move forward with this option should it be needed, based on the IBCC's work.
74	5/2/2014	Stephanie Scott, Colorado Trout Unlimited	Email to Kate McIntire, forwarded to cwaterplan@state.co.us	5.6, 5.7, 5.9, 5.11	Text from email: "Thank you for the opportunity to submit materials to the CWCB Board and also for the time to speak to them at the board meeting. Attached are the final packets that Trout Unlimited has prepared that are specific to each basin. These packets are our suggested content for the basin implementation plans. While we intended on developing comments for all 9 basin we realized that it was best to focus on just the ones attached. We have combined the South Platte and Metro comments into one packet. For the basins that do not have comments we are still pushing our TU Water Plan Principles to be incorporated into the BIP and our members will be involved at the meetings. Those principles are attached to this email in a separate document. After speaking with roundtable representatives it was suggested that we included both broad level and specific detailed comments. Per this request we have gathered and organized the packets into 3 sections to make it easier for the roundtables to incorporate the comments. · The first section includes broad principles that Trout Unlimited would like to see incorporated into all of the BIPs throughout CO. · The second includes bullet point comments that are specific to each of the basins. · The third section lays out each of those bullet points in more detail. I will be the one speaking at the CWCB Board meeting. I will be presenting these packets to the board and explain the outreach that Trout Unlimited has done on the water plan, emphasize the opportunity for the CWCB Board and Trout Unlimited to work together and give a brief overview of our high level principles. Please let me know if there is anything else that you need. "	Comments in attached letters	Staff response: Staff appreciates the considerable work Trout Unlimited (TU) put into the comments provided and will pass each of the basin-specific documents to the respective BRTs. With regard to TU's Water Plan Principles, "meaningful efforts to protect and restore healthy rivers and streams" will be incorporated into Section 5.9 and the BIPs. The CWCB expects that the BIPs will help refine the municipal supply gap and Colorado's Water Plan will emphasize efficient use of Colorado's Water supplies in Section 5.6. The initial draft of Chapter 5.6, released in May for public review, explores conservation and reuse. Colorado's Water Plan suggests that at a minimum and in the near term, Colorado should seek to implement "medium" conservation practices while acknowledging that in the future "high" levels of conservation may be needed depending on which scenario presents itself in Colorado. Section 5.7 is also now available for public review on Alternative Transfer Methods and the BIPs will explore the integration of water supply systems. Overall, TU's Water Plan Principles are consistent with the values expressed in Colorado's Water Plan and the plan will encourage multi-purpose projects. With regard to new transmountain diversion projects, the IBCC is exploring innovative ways to address this issue in a balanced manner. Lastly, CWCB will consider the laws and policies suggested by TU to facilitate creative water management when drafting Section 5.11.

Colorado's Water Plan - Input Received between 3/4/14 and 5/2/2014							
Item Number	Date	Input Provided By	Method of Input Submission	Related Chapters of CWP Framework	Summary of Input	Documents Submitted for Review	Staff Responses and Recommendations
75	5/2/2014	Craig Mackey on behalf of over 100 Colorado businesses and Protect the Flows	Email to Kate McIntire, forwarded to cewaterplan@state.co.us	5.6.1, 5.6.4	A letter from Protect the Flows, signed by over 100 Colorado businesses regarding input on Colorado's Water Plan.	Comments in attached letter	Staff response: CWCB appreciates the engagement level of the commenters, whose comments are in line with the efforts of Colorado's Water Plan. Related subsections of Colorado's Water Plan are now available online at www.coloradowaterplan.com for public review.

Cover Sheet for Input Document, Item #1

The document listed 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: March 4, 2014

Input provided by: Steve Harris on behalf of Southwestern Water Conservancy District

Method of submission: Email to Jacob Bornstein and Rebecca Mitchell, forwarded to cowaterplan@state.co.us

Summary of Input: Comments from the Southwestern Water Conservancy District on Colorado's Water Plan Framework, Sections 1.2, 5.2, and Chapter 8.

Documents Submitted for Review: Comments on draft attached

Staff Response: CWCB staff will discuss with the CWCB Board in May, 2014 the reorganization of Chapter 5 suggested by Steve Harris on behalf of the Southwestern Water Conservancy District. Mr. Harris suggests that Chapter 5 be split into 2 subsections, with one of the subsections addressing the "four legs of the stool", and the other subsection addressing Sections 5.1 - 5.4 and 5.10. With regard to Mr. Harris' caution regarding land use, this issue received Board discussion during the March, 2014 CWCB Board workshop. The Board decided to create a separate subsection on land use which describes the relationship between water and land use and suggests some incentives that local jurisdictions may consider. This section will be available for review at the May Board meeting.

Emailed March 4, 2014

To: Rebecca Mitchell and Jacob Bornstein, CWCB

From: Steve Harris on behalf of Southwestern WCD

Subject: Comments on January 17, 2014 Initial Draft of CWP

The Southwestern Water Conservation District Board approved me to review the various drafts of the Colorado Water Plan (CWP) and provide comments on behalf of SWCD. We understand that this is a first draft (mostly an outline) and you are interested in big picture comments at this point in the process. On behalf of SWCD, we thank you for this opportunity to comment and look forward to participating in development of the CWP over the remainder of 2014.

The following are initial comments on the January 17, 2014 draft, there may be additional comments on this and future drafts of the CWP report.

1. Except for the comment on Section 5, the draft outline covers all of the needed topic areas. Good start on a difficult task to describe everything that needs to go in the CWP.
2. The major comment concerns Section 5 because it includes such a diverse group of somewhat unrelated topics and will result in an extremely long section. The suggestion is to split the section into two sections: (1) one section that addresses the gaps and four legs of the stool – implementation topics; and (2) a second section that includes current subsections 5.1, 5.2, 5.3, 5.4, 5.10 which are not directly related to implementation. The gaps and four legs are the heart of the CWP because these will be implemented and should have its own section.
3. Section 5.6.1 – Including “land use” in the title and as an issue to be pursued in the CWP is likely to cause a lot of trouble. As we found out in the lawn bill, trying to tell or suggest to cities/counties how to do land use is a hot button issue. The suggestion is to stay out of that issue in the CWP.
4. Section 1.2 – The BLM and USFS should be included as Federal entities that permit projects. It is difficult to develop a project in Colorado that doesn’t cross land administered by one or both of those agencies. In order to obtain special use permits for land use, both agencies either do or will require flow bypasses. The bypass requirements are described in the latest management plans being proposed by the agencies.
5. Section 1.2 (page 15 of the draft) – There is a description of Local Governments regarding land use authority and 1041 powers. Not all counties have implemented 1041 powers but all have land use authority. The description isn’t correct and someone who knows about this should be consulted. The description on page 17 looks to be more accurate.
6. Section 5.2 (page 34) – There is a paragraph with percentages attempting to show climate variability. It is not clear what the percentages are trying to show. Also it seemed like this analysis should be under water supply and not natural disasters.
7. The inclusion of Section 7, Legislation Recommendations is good because there is likely to be legislation needed to assist in implementing the CWP.

Cover Sheet for Input Document, Item #2

The document listed 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: March 5, 2014

Input provided by: Diane Johnson, Eagle River Water & Sanitation District, sent on behalf of 8 entities within Eagle County

Method of submission: Email to cowaterplan@state.co.us

Summary of Input: Text from email: "Attached are Principles for the Colorado Water Plan from the Eagle River Basin (tributary to the Colorado River) that have been adopted by entities within Eagle County. Also attached are Resolutions "Endorsing the West Slope Principles and Adopting the Eagle River Basin Principles for the Colorado Water Plan" by the following municipalities, special districts, and water providers within the Eagle River Basin:

1. Arrowhead Metropolitan District
2. Berry Creek Metropolitan District
3. EagleVail Board of Governors
4. Eagle River Water & Sanitation District
5. Edwards Metropolitan District
6. Town of Avon
7. Town of Vail
8. Upper Eagle Regional Water Authority

Each of the Resolutions states, among other items, that the Board of Directors of the above entities "supports these principles and believes that the Governor and the Colorado Water Conservation Board should adhere to these principles in preparing the Colorado Water Plan." We submit this message and the attached documents as public input on the Colorado Water Plan to be considered by CWCB Directors at the March 18, 2014, Board meeting. Thank you for the opportunity to include this information in the board packet. The West Slope Principles were

previously provided to the CWCB by the Colorado Basin Roundtable, and were previously endorsed by many other jurisdictions."

Documents Submitted for Review: Comments on draft attached

Staff Response: The CWCB is committed to sending letters to each of the participating entities within the Eagle River Water and Sanitation District with a more detailed response and inviting these entities to engage in the conversation about how to best incorporate the West Slope Principles and any related thoughts or concerns. In general, many of the West Slope Principles are consistent with the values that will be expressed in Colorado's Water Plan, which are: 1) vibrant and sustainable cities, 2) viable and productive agriculture, 3) a robust recreation and tourism industry, and 4) a thriving environment that includes healthy watersheds, rivers, streams, and wildlife. In addition, the Interbasin Compact Committee (IBCC) is working through several issues related to the West Slope Principles and their direction is largely consistent with these values. Colorado's Water Plan also further encourages conservation, reuse, incentives for land use, as well as multi-purpose and cooperative projects. The plan is founded upon scenario planning, which will allow for Colorado to adapt to changing water supplies over time. In addition, the state is working vigorously with other upper basin states and the Colorado River Basin as a whole to mitigate any risks Colorado may face with regard to compact compliance and other interstate issues.

EAGLE RIVER WATER & SANITATION DISTRICT
RESOLUTION ENDORSING THE WEST SLOPE PRINCIPLES AND
ADOPTING THE EAGLE RIVER BASIN PRINCIPLES FOR THE COLORADO WATER PLAN

WHEREAS, the Eagle River Water and Sanitation District ("District") is a quasi-municipal corporation and political subdivision of the State of Colorado and a duly organized and existing special district pursuant to Title 32, Colorado Revised Statutes; and

WHEREAS, the District is authorized and empowered to supply water for domestic and other public and private purposes; and

WHEREAS, the District manages and operates the integrated water system of the Upper Eagle Regional Water Authority which provides water services to the areas from EagleVail through Edwards and Cordillera; and

WHEREAS, the District has continually planned to provide efficient, effective, and reliable water to its service area, ranging from East Vail to Wolcott, through development of the public water system, including water rights, storage and treatment facilities; and

WHEREAS, the Governor of the State of Colorado issued executive order D 2013-005, directing "the Colorado Water Conservation Board to commence work on the Colorado Water Plan" in May 2013; and

WHEREAS, according to the executive order, "Colorado's water policy must reflect its water values," including a "productive economy," efficient water infrastructure "promoting smart land use," and a "strong environment that includes healthy watersheds, rivers and streams, and wildlife;" and

WHEREAS, the west slope headwaters are the source of much of the water supply for the Front Range as well as an epicenter of Colorado's recreation economy and wildlife resources; and

WHEREAS, local governments, water districts, watershed groups, basin roundtables, and other west slope water leaders have a deep understanding of the relationship between water resource development and the healthy watersheds, rivers and streams, and wildlife; and

WHEREAS, west slope organizations have been engaged in land use and water planning both locally and with Front Range water interests for many years and desire that this experience inform the Colorado Water Plan process; and

WHEREAS, Eagle River Basin water providers have led cross-basin negotiations that have protected local rivers and streams, thereby providing for municipal water supply, recreational uses, environmental flows, and healthy watersheds; and

WHEREAS, the District and other local governments are members of the Northwest Colorado Council of Governments' Water Quality/Quantity Committee which developed the **West Slope Principles** in collaboration with members of the west slope Basin Roundtables and the communities they represent; and

WHEREAS, the District will continue to work with the Colorado River Water Conservation District to develop basin-wide principles to inform and guide the Colorado Water Plan.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Eagle River Water & Sanitation District endorse the **West Slope Principles for the Colorado Water Plan**, attached hereto as Exhibit A, and hereby further adopt the principles more specific to the Eagle River basin, attached hereto as Exhibit B.

ADOPTED this 24th day of October 2013, by a vote of 4 in favor and 0 opposed.

EAGLE RIVER WATER & SANITATION DISTRICT

By: Frederick P. Sackbauer IV
Frederick P. Sackbauer IV, Chairman

ATTEST:

By: Debbie Buckley
Debbie Buckley, Secretary

West Slope Principles for the Colorado Water Plan

1. **Solutions in the Colorado Water Plan (CWP) to supply water for growth and development in one part of the state should not over-ride land use plans and regulations adopted by local governments in the part of the state from which water will be taken.** ^{1,2,3,4,5,6,7}
 - 1.1 No new water supply projects or major changes in operation of existing projects should be planned unless agreed to by the county, conservancy district, and conservation district in the area from which water would be diverted. ^{1,3,5,6,7}
 - 1.2 The CWP must take into account pending projects, water supply plans, comprehensive land use plans, local regulatory authority, water quality plans (208 Plans), watershed plans, multi-party water agreements and related documents adopted by local governments in the area from which water would be taken. ^{1,2,3,4,5,6,7}
 - 1.3 Both the legislative basis and the legal impact of local government regulatory tools adopted to mitigate impacts of water projects should be recognized and protected. ^{3,6,7}
 - 1.4 The CWP should never elevate the agricultural interests in one part of the state over the agricultural interests in another part of the state to meet the demands of Front Range development. Agriculture is an important segment of the state's economy as a whole. Agriculture provides food independence, open space, wildlife habitat, cultural value, and economic activity wherever it is located.
 - 1.5 Any new supply projects taking water from one area of the state to another should include funding for "compensatory projects" to serve the area from which the water is taken. ⁷
2. **The CWP should protect and not threaten the economic, environmental, and social well-being of the west slope.** ^{1,2,3,5,6}
 - 2.1 The cornerstones of the west slope's economy are tourism, recreation, agriculture, and resource development, all of which are highly dependent upon water to be successful. The CWP should not facilitate additional diversions that could threaten the region's environmental, social and economic well-being. ^{1,2,3,6}
 - 2.2 To educate the public about existing conditions on the west slope, the CWP should identify the location and amounts of water that are already diverted every year from the west slope to the east slope, and discuss the historic and current consequences of those diversions. ^{1,2,3,6,9}

- 2.3 The state should not facilitate, politically, financially, or legally, any new water supply projects from the Colorado, Yampa/White or Gunnison River Basins to the Front Range without the consent of the county, conservancy district, and conservation district in the basin of origin, and unless impacts are avoided and mitigation is provided. ^{1,2,3,6 7}
- 2.4 New supply projects that involve storage on the west slope must make a significant amount of water available to west slope water uses. New supply projects that involve storage of west slope water in an east slope storage project must provide compensatory storage to protect existing and future west slope water uses, as well as the environmental and non-consumptive needs of the basin of origin. ⁷
- 2.5 The CWP must protect investments in public water and wastewater facilities by ensuring that costs to upgrade and operate these facilities do not increase because of Front Range water projects. ⁵
- 2.6 The CWP must afford recreational in-channel diversions and CWCB instream flows the same status as other water rights that are protected under Colorado law. ^{3,6} Other west slope non-consumptive water needs must be factored into the CWP.
- 2.7 Water quality protection efforts of the west slope must be respected and enhanced by the CWP. ^{4,5,6}
- 2.8 The historic use of west slope agricultural water rights provides a river flow regime that is relied upon by all west slope users and must be maintained. ⁸
- 3. **The CWP should identify a process and requirements for each basin to exhaust available water supply within its own basin before planning diversions from another area of the state.** ^{1,2,3,7}
 - 3.1 Transmountain diversion water should be re-used to extinction to the extent allowed by law, before any proposed new supply development focuses on further west slope water supply. ^{1,2,3,6,7}
 - 3.2 Re-allocation of existing supplies in areas that need more water should be evaluated (e.g. rotational fallowing, changing to new uses, deficit irrigation). ^{1,3,6,7}
 - 3.3 Front range infrastructure and water should be shared to meet future demands (e.g. WISE). Laws and regulations that improve such sharing should be considered.
 - 3.4 New Front Range in-basin projects should be pursued to fully utilize in-basin supplies (e.g. Chatfield Reallocation, SDS, Arkansas Conduit, indirect and direct

re-use, gravel pit storage projects), including maintaining and enhancing existing storage facilities. The CWP should encourage and facilitate dredging to keep capacity, and streamline efforts to enlarge storage by dredging when practical.^{3,6}

3.5 The CWP should promote mechanisms to reduce demand through agricultural or municipal efficiency/conservation, land use and smart growth policies that further water conservation, and controls on water usage.^{3,6,7} Under no circumstances should agriculture be penalized for switching to more efficient water use methods.

3.6 The CWP should reject proposals for water to supply new development when and where there are insufficient water resources available to support them under all hydrologic conditions without creating risks for other water users.^{1,3,6,7} Any new supply projects that rely on diversions from the west slope should be developed within the existing water rights system and not afforded special status.

3.7 Front Range areas with present and future projected water shortages should pursue collectively financing projects that provide water resources to their areas.

4. **The CWP should outline mechanisms to mitigate the risk of potential Compact curtailment of the Colorado River. For example, the CWP should adopt low-risk legal and hydrologic assumptions related to Colorado's obligations under the Colorado River Compact and the Upper Colorado River Basin Compact in order to minimize the risk of curtailment on existing uses of Colorado River basin water.⁷**

4.1 There is disagreement on how much, if any, additional consumptive use water is available from the Colorado River. Because of justifiable reliance and financial investment, existing uses and users should be protected and not put at risk by new development.

4.2 The facilities and methodologies for protecting existing users from a compact curtailment, as well as for mitigation, must be in place prior to any new project or methodology that would take additional water out of the Colorado River Basin.

4.3 The CWP must disclose that fully developing the state's Colorado River compact entitlement will increase the chance of a compact curtailment that would impact existing users.

4.4 New projects in the Colorado River Basin should be supported and approved, if at all, only on conditions that will allow diversion and storage at times and in amounts that will not increase the risk of compact curtailment of other post-Compact water rights.

5. **The State should not assume a role as a proponent of a water project until the State regulatory process has been completed and the project has been agreed to by the impacted counties, conservancy districts and conservation districts in the area from which water would be diverted.**

The above principles are taken from many sources of earlier water principles around the state. The numbers in the above principles indicate in which documents a similar principle may be found, including:

- ¹ Colorado 58 *Water Principles*. In approximately 1999, 58 Colorado Counties, signed onto these Water Principles, which were passed as a House Resolution as well.
- ² Colorado River Water Conservation District Policy Statement: Existing Transmountain Diversions, Adopted July 15, 2008, readopted July 2011. http://www.crwcd.org/media/uploads/20110719-policies_TMD_Existing_Projects.pdf
- ³ Colorado River Water Conservation District Policy Statement: Transmountain Diversions, adopted March 16, 2000, revised and readopted July 2011. http://www.crwcd.org/media/uploads/20110719-policies_TMDs.pdf
- ⁴ Colorado River Water Conservation District Policy Statement: Water Quality, adopted July 2010. http://www.crwcd.org/media/uploads/20100720_policy_water_quality.pdf
- ⁵ NWCCOG Water Quality/ Quantity Committee Policies, readopted November 2012.
- ⁶ 2012 NWCCOG Regional Water Quality Management Plan (208 Plan). http://nwccog.org/docs/wss/rwqmp_2012/Vol%201_Policy%20Plan%202012%20208%20Plan.pdf
- ⁷ Colorado Basin Roundtable Vision Statement (Nov. 2010).
- ⁸ Orchard Mesa Check Case, 91CW247, Water Division No. 5.
- ⁹ i.e. Senate Document No. 80, Windy Gap Project, Windy Gap Firing Project, Colorado River Cooperative Agreement

EAGLE RIVER BASIN PRINCIPLES for the Colorado Water Plan

1. Introduction. Local water districts, cities and towns, individual water users, and area water conservation and conservancy districts are the entities and individuals that own, use and develop water rights for municipal, domestic, agricultural, industrial, and recreation uses on the west slope of Colorado. As evidenced by the recent historic Colorado River Cooperative Agreement between Denver Water and the west slope of Colorado, these are the parties that know their needs, the area and regional water supplies, and what cooperative water plans and agreements are possible. It is essential that any state based water plan not attempt to supplant the role of west slope water users or seek to supersede constitutionally based Colorado water law, 1041 and local land use permit authority, water supply plans or pre-existing agreements between water rights owners. To assure Colorado's water future, the State should: assist with funding of water supply projects needed to meet locally-determined needs; support a healthy west slope (and state-wide) economy by protecting watersheds, stream flows and water quality; and abide by local land use and water plans.

2. Future Transmountain Diversions. Any future transmountain diversions from the Eagle River basin must comply with the express terms of the Eagle River Memorandum of Understanding with Colorado Springs and Aurora, the settlement with Denver Water in Case Nos. 02CW125 and 07CW126, the Colorado River Cooperative Agreement with Denver Water, Eagle County 1041 permit authority and regulations, and the Colorado water right priority system under the State Constitution. Pursuant to the foregoing agreements, any future transmountain diversion projects must result in net benefits to the Eagle River Basin.

3. Compact Calls. Any Colorado River compact call must comply with and be administered according to Colorado's constitutionally based priority system and the existing transmountain diversions of the Northern Colorado Water Conservancy District, Denver, Colorado Springs and Englewood must be subject to and comply with the terms of Senate Document 80, the Blue River Decree, and the decree for the Windy Gap Project.

4. Water Leadership. Leadership on any regional water plans that affect the Eagle River basin should come from the local water providers, the Eagle Park Reservoir Company, which owns and controls the largest storage facilities and water rights used in the Eagle River basin, and water rights owners who depend on water to support the recreational economy, such as the Vail and Beaver Creek ski areas. Any state or regional water plan must be acceptable to these entities. Additionally, Eagle County and local municipalities (the towns of Vail, Avon, Minturn, Red Cliff, Eagle, and Gypsum) are important stakeholders in water issues, and as such are represented on the Colorado Basin Roundtable, as water is integral to land use issues, the local environment, and the economy of these communities.

5. Reallocation of Water Supplies. Any effort to reallocate the area municipal, irrigation, snowmaking, and recreation water supplies and water rights to new uses and new regions must be summarily rejected.

6. New Supply Projects. Any new water supply projects must first serve the local and regional water supply needs, and fully protect the region's economic activities, area water quality, and stream health.

EAGLE RIVER BASIN PRINCIPLES for the Colorado Water Plan

1. Introduction. Local water districts, cities and towns, individual water users, and area water conservation and conservancy districts are the entities and individuals that own, use and develop water rights for municipal, domestic, agricultural, industrial, and recreation uses on the west slope of Colorado. As evidenced by the recent historic Colorado River Cooperative Agreement between Denver Water and the west slope of Colorado, these are the parties that know their needs, the area and regional water supplies, and what cooperative water plans and agreements are possible. It is essential that any state based water plan not attempt to supplant the role of west slope water users or seek to supersede constitutionally based Colorado water law, 1041 and local land use permit authority, water supply plans or pre-existing agreements between water rights owners. To assure Colorado's water future, the State should: assist with funding of water supply projects needed to meet locally-determined needs; support a healthy west slope (and state-wide) economy by protecting watersheds, stream flows and water quality; and abide by local land use and water plans.

2. Future Transmountain Diversions. Any future transmountain diversions from the Eagle River basin must comply with the express terms of the Eagle River Memorandum of Understanding with Colorado Springs and Aurora, the settlement with Denver Water in Case Nos. 02CW125 and 07CW126, the Colorado River Cooperative Agreement with Denver Water, Eagle County 1041 permit authority and regulations, and the Colorado water right priority system under the State Constitution. Pursuant to the foregoing agreements, any future transmountain diversion projects must result in net benefits to the Eagle River Basin.

3. Compact Calls. Any Colorado River compact call must comply with and be administered according to Colorado's constitutionally based priority system and the existing transmountain diversions of the Northern Colorado Water Conservancy District, Denver, Colorado Springs and Englewood must be subject to and comply with the terms of Senate Document 80, the Blue River Decree, and the decree for the Windy Gap Project.

4. Water Leadership. Leadership on any regional water plans that affect the Eagle River basin should come from the local water providers, the Eagle Park Reservoir Company, which owns and controls the largest storage facilities and water rights used in the Eagle River basin, and water rights owners who depend on water to support the recreational economy, such as the Vail and Beaver Creek ski areas. Any state or regional water plan must be acceptable to these entities. Additionally, Eagle County and local municipalities (the towns of Vail, Avon, Minturn, Red Cliff, Eagle, and Gypsum) are important stakeholders in water issues, and as such are represented on the Colorado Basin Roundtable, as water is integral to land use issues, the local environment, and the economy of these communities.

5. Reallocation of Water Supplies. Any effort to reallocate the area municipal, irrigation, snowmaking, and recreation water supplies and water rights to new uses and new regions must be summarily rejected.

6. New Supply Projects. Any new water supply projects must first serve the local and regional water supply needs, and fully protect the region's economic activities, area water quality, and stream health.

UPPER EAGLE REGIONAL WATER AUTHORITY
RESOLUTION ENDORSING THE WEST SLOPE PRINCIPLES AND
ADOPTING THE EAGLE RIVER BASIN PRINCIPLES FOR THE COLORADO WATER PLAN

WHEREAS, the Upper Eagle Regional Water Authority ("Authority") is a quasi-municipal corporation and political subdivision of the State of Colorado and a duly organized and existing water authority pursuant to Section 29-1-204.2, Colorado Revised Statutes; and

WHEREAS, the Authority is authorized and empowered to supply water for domestic and other public and private purposes; and

WHEREAS, the Authority has continually planned to provide efficient, effective, and reliable water to its service area, ranging from EagleVail through Cordillera, through development of the public water system, including water rights, storage and treatment facilities; and

WHEREAS, the Governor of the State of Colorado issued executive order D 2013-005, directing "the Colorado Water Conservation Board to commence work on the Colorado Water Plan" in May 2013; and

WHEREAS, according to the executive order, "Colorado's water policy must reflect its water values," including a "productive economy," efficient water infrastructure "promoting smart land use," and a "strong environment that includes healthy watersheds, rivers and streams, and wildlife;" and

WHEREAS, the west slope headwaters are the source of much of the water supply for the Front Range as well as an epicenter of Colorado's recreation economy and wildlife resources; and

WHEREAS, local governments, water districts, watershed groups, basin roundtables, and other west slope water leaders have a deep understanding of the relationship between water resource development and the healthy watersheds, rivers and streams, and wildlife; and

WHEREAS, west slope organizations have been engaged in land use and water planning both locally and with Front Range water interests for many years and desire that this experience inform the Colorado Water Plan process; and

WHEREAS, Eagle River Basin water providers have led cross-basin negotiations that have protected local rivers and streams, thereby providing for municipal water supply, recreational uses, environmental flows, and healthy watersheds; and

WHEREAS, the Authority and other local governments are members of the Northwest Colorado Council of Governments' Water Quality/Quantity Committee which developed the **West Slope Principles** in collaboration with members of the west slope Basin Roundtables and the communities they represent; and

WHEREAS, the Authority will continue to work with the Colorado River Water Conservation District to develop basin-wide principles to inform and guide the Colorado Water Plan.

NOW, THEREFORE, BE IT RESOLVED that the Board of Directors of the Upper Eagle Regional Water Authority endorse the **West Slope Principles for the Colorado Water Plan**, attached hereto as Exhibit A, and hereby adopt the principles more specific to the Eagle River basin attached, hereto as Exhibit B.

ADOPTED this 24th day of October 2013, by a vote of 11 in favor and 0 opposed.

UPPER EAGLE REGIONAL WATER AUTHORITY

By: 
George Gregory, Chairman

ATTEST:

By: 

James P. Power, Secretary

West Slope Principles for the Colorado Water Plan

1. **Solutions in the Colorado Water Plan (CWP) to supply water for growth and development in one part of the state should not over-ride land use plans and regulations adopted by local governments in the part of the state from which water will be taken.** ^{1,2,3,4,5,6,7}
 - 1.1 No new water supply projects or major changes in operation of existing projects should be planned unless agreed to by the county, conservancy district, and conservation district in the area from which water would be diverted. ^{1,3,5,6,7}
 - 1.2 The CWP must take into account pending projects, water supply plans, comprehensive land use plans, local regulatory authority, water quality plans (208 Plans), watershed plans, multi-party water agreements and related documents adopted by local governments in the area from which water would be taken. ^{1,2,3,4,5,6,7}
 - 1.3 Both the legislative basis and the legal impact of local government regulatory tools adopted to mitigate impacts of water projects should be recognized and protected. ^{3,6,7}
 - 1.4 The CWP should never elevate the agricultural interests in one part of the state over the agricultural interests in another part of the state to meet the demands of Front Range development. Agriculture is an important segment of the state's economy as a whole. Agriculture provides food independence, open space, wildlife habitat, cultural value, and economic activity wherever it is located.
 - 1.5 Any new supply projects taking water from one area of the state to another should include funding for "compensatory projects" to serve the area from which the water is taken. ⁷
2. **The CWP should protect and not threaten the economic, environmental, and social well-being of the west slope.** ^{1,2,3,5,6}
 - 2.1 The cornerstones of the west slope's economy are tourism, recreation, agriculture, and resource development, all of which are highly dependent upon water to be successful. The CWP should not facilitate additional diversions that could threaten the region's environmental, social and economic well-being. ^{1,2,3,6}
 - 2.2 To educate the public about existing conditions on the west slope, the CWP should identify the location and amounts of water that are already diverted every year from the west slope to the east slope, and discuss the historic and current consequences of those diversions. ^{1,2,3,6,9}

- 2.3 The state should not facilitate, politically, financially, or legally, any new water supply projects from the Colorado, Yampa/White or Gunnison River Basins to the Front Range without the consent of the county, conservancy district, and conservation district in the basin of origin, and unless impacts are avoided and mitigation is provided. ^{1,2,3,6 7}
- 2.4 New supply projects that involve storage on the west slope must make a significant amount of water available to west slope water uses. New supply projects that involve storage of west slope water in an east slope storage project must provide compensatory storage to protect existing and future west slope water uses, as well as the environmental and non-consumptive needs of the basin of origin. ⁷
- 2.5 The CWP must protect investments in public water and wastewater facilities by ensuring that costs to upgrade and operate these facilities do not increase because of Front Range water projects. ⁵
- 2.6 The CWP must afford recreational in-channel diversions and CWCB instream flows the same status as other water rights that are protected under Colorado law. ^{3,6} Other west slope non-consumptive water needs must be factored into the CWP.
- 2.7 Water quality protection efforts of the west slope must be respected and enhanced by the CWP. ^{4,5,6}
- 2.8 The historic use of west slope agricultural water rights provides a river flow regime that is relied upon by all west slope users and must be maintained. ⁸
- 3. **The CWP should identify a process and requirements for each basin to exhaust available water supply within its own basin before planning diversions from another area of the state.** ^{1,2,3,7}
 - 3.1 Transmountain diversion water should be re-used to extinction to the extent allowed by law, before any proposed new supply development focuses on further west slope water supply. ^{1,2,3,6,7}
 - 3.2 Re-allocation of existing supplies in areas that need more water should be evaluated (e.g. rotational fallowing, changing to new uses, deficit irrigation). ^{1,3,6,7}
 - 3.3 Front range infrastructure and water should be shared to meet future demands (e.g. WISE). Laws and regulations that improve such sharing should be considered.
 - 3.4 New Front Range in-basin projects should be pursued to fully utilize in-basin supplies (e.g. Chatfield Reallocation, SDS, Arkansas Conduit, indirect and direct

re-use, gravel pit storage projects), including maintaining and enhancing existing storage facilities. The CWP should encourage and facilitate dredging to keep capacity, and streamline efforts to enlarge storage by dredging when practical.^{3,6}

3.5 The CWP should promote mechanisms to reduce demand through agricultural or municipal efficiency/conservation, land use and smart growth policies that further water conservation, and controls on water usage.^{3,6,7} Under no circumstances should agriculture be penalized for switching to more efficient water use methods.

3.6 The CWP should reject proposals for water to supply new development when and where there are insufficient water resources available to support them under all hydrologic conditions without creating risks for other water users.^{1,3,6,7} Any new supply projects that rely on diversions from the west slope should be developed within the existing water rights system and not afforded special status.

3.7 Front Range areas with present and future projected water shortages should pursue collectively financing projects that provide water resources to their areas.

4. **The CWP should outline mechanisms to mitigate the risk of potential Compact curtailment of the Colorado River. For example, the CWP should adopt low-risk legal and hydrologic assumptions related to Colorado's obligations under the Colorado River Compact and the Upper Colorado River Basin Compact in order to minimize the risk of curtailment on existing uses of Colorado River basin water.⁷**

4.1 There is disagreement on how much, if any, additional consumptive use water is available from the Colorado River. Because of justifiable reliance and financial investment, existing uses and users should be protected and not put at risk by new development.

4.2 The facilities and methodologies for protecting existing users from a compact curtailment, as well as for mitigation, must be in place prior to any new project or methodology that would take additional water out of the Colorado River Basin.

4.3 The CWP must disclose that fully developing the state's Colorado River compact entitlement will increase the chance of a compact curtailment that would impact existing users.

4.4 New projects in the Colorado River Basin should be supported and approved, if at all, only on conditions that will allow diversion and storage at times and in amounts that will not increase the risk of compact curtailment of other post-Compact water rights.

5. **The State should not assume a role as a proponent of a water project until the State regulatory process has been completed and the project has been agreed to by the impacted counties, conservancy districts and conservation districts in the area from which water would be diverted.**

The above principles are taken from many sources of earlier water principles around the state. The numbers in the above principles indicate in which documents a similar principle may be found, including:

- ¹ Colorado 58 *Water Principles*. In approximately 1999, 58 Colorado Counties, signed onto these Water Principles, which were passed as a House Resolution as well.
- ² Colorado River Water Conservation District Policy Statement: Existing Transmountain Diversions, Adopted July 15, 2008, readopted July 2011. http://www.crwcd.org/media/uploads/20110719-policies_TMD_Existing_Projects.pdf
- ³ Colorado River Water Conservation District Policy Statement: Transmountain Diversions, adopted March 16, 2000, revised and readopted July 2011. http://www.crwcd.org/media/uploads/20110719-policies_TMDs.pdf
- ⁴ Colorado River Water Conservation District Policy Statement: Water Quality, adopted July 2010. http://www.crwcd.org/media/uploads/20100720_policy_water_quality.pdf
- ⁵ NWCCOG Water Quality/ Quantity Committee Policies, readopted November 2012.
- ⁶ 2012 NWCCOG Regional Water Quality Management Plan (208 Plan). http://nwccog.org/docs/wss/rwqmp_2012/Vol%201_Policy%20Plan%202012%20208%20Plan.pdf
- ⁷ Colorado Basin Roundtable Vision Statement (Nov. 2010).
- ⁸ Orchard Mesa Check Case, 91CW247, Water Division No. 5.
- ⁹ i.e. Senate Document No. 80, Windy Gap Project, Windy Gap Firing Project, Colorado River Cooperative Agreement

EAGLE RIVER BASIN PRINCIPLES for the Colorado Water Plan

1. Introduction. Local water districts, cities and towns, individual water users, and area water conservation and conservancy districts are the entities and individuals that own, use and develop water rights for municipal, domestic, agricultural, industrial, and recreation uses on the west slope of Colorado. As evidenced by the recent historic Colorado River Cooperative Agreement between Denver Water and the west slope of Colorado, these are the parties that know their needs, the area and regional water supplies, and what cooperative water plans and agreements are possible. It is essential that any state based water plan not attempt to supplant the role of west slope water users or seek to supersede constitutionally based Colorado water law, 1041 and local land use permit authority, water supply plans or pre-existing agreements between water rights owners. To assure Colorado's water future, the State should: assist with funding of water supply projects needed to meet locally-determined needs; support a healthy west slope (and state-wide) economy by protecting watersheds, stream flows and water quality; and abide by local land use and water plans.

2. Future Transmountain Diversions. Any future transmountain diversions from the Eagle River basin must comply with the express terms of the Eagle River Memorandum of Understanding with Colorado Springs and Aurora, the settlement with Denver Water in Case Nos. 02CW125 and 07CW126, the Colorado River Cooperative Agreement with Denver Water, Eagle County 1041 permit authority and regulations, and the Colorado water right priority system under the State Constitution. Pursuant to the foregoing agreements, any future transmountain diversion projects must result in net benefits to the Eagle River Basin.

3. Compact Calls. Any Colorado River compact call must comply with and be administered according to Colorado's constitutionally based priority system and the existing transmountain diversions of the Northern Colorado Water Conservancy District, Denver, Colorado Springs and Englewood must be subject to and comply with the terms of Senate Document 80, the Blue River Decree, and the decree for the Windy Gap Project.

4. Water Leadership. Leadership on any regional water plans that affect the Eagle River basin should come from the local water providers, the Eagle Park Reservoir Company, which owns and controls the largest storage facilities and water rights used in the Eagle River basin, and water rights owners who depend on water to support the recreational economy, such as the Vail and Beaver Creek ski areas. Any state or regional water plan must be acceptable to these entities. Additionally, Eagle County and local municipalities (the towns of Vail, Avon, Minturn, Red Cliff, Eagle, and Gypsum) are important stakeholders in water issues, and as such are represented on the Colorado Basin Roundtable, as water is integral to land use issues, the local environment, and the economy of these communities.

5. Reallocation of Water Supplies. Any effort to reallocate the area municipal, irrigation, snowmaking, and recreation water supplies and water rights to new uses and new regions must be summarily rejected.

6. New Supply Projects. Any new water supply projects must first serve the local and regional water supply needs, and fully protect the region's economic activities, area water quality, and stream health.

RESOLUTION NO. 10
Series of 2013

A Resolution Endorsing The West Slope Principles and Adopting the Eagle River Basin Principles for the Colorado Water Plan; and Setting Forth Details in Regard Thereto.

WHEREAS, the Town of Vail (the "Town") in the County of Eagle and State of Colorado is a home rule municipal corporation duly organized and existing under laws of the State of Colorado and the Vail Town Charter;

WHEREAS, the Town receives water services from the Eagle River Water & Sanitation District (the "District"), which is authorized and empowered to supply water for domestic and other public and private purposes;

WHEREAS, the Town benefits from District planning that has provided efficient, effective, and reliable water to the District's service area, ranging from East Vail to Wolcott, through development of the public water system, including water rights, storage and treatment facilities;

WHEREAS, the Governor of the State of Colorado issued executive order D 2013-005, directing "the Colorado Water Conservation Board to commence work on the Colorado Water Plan" in May 2013;

WHEREAS, according to the executive order, "Colorado's water policy must reflect its water values," including a "productive economy," efficient water infrastructure "promoting smart land use," and a "strong environment that includes healthy watersheds, rivers and streams, and wildlife;"

WHEREAS, the west slope headwaters are the source of much of the water supply for the front range as well as an epicenter of Colorado's recreation economy and wildlife resources;

WHEREAS, local governments, water districts, watershed groups, basin roundtables, and other west slope water leaders have a deep understanding of the relationship between water resource development and the healthy watersheds, rivers and streams, and wildlife;

WHEREAS, west slope organizations have been engaged in land use and water planning both locally and with Front Range water interests for many years and desire that this experience inform the Colorado Water Plan process;

WHEREAS, Eagle River basin water providers have led cross-basin negotiations that have protected local rivers and streams, thereby providing for municipal water supply, recreational uses, environmental flows, and healthy watersheds;

WHEREAS, Eagle River basin water providers developed principles to assure the certainty of existing and planned future water supply;

WHEREAS, the Town and District are members of the Northwest Colorado Council of Governments' Water Quality/Quantity Committee which developed the *West Slope Principles* in collaboration with members of the west slope Basin Roundtables and the communities they represent;

WHEREAS, the Vail Town Council supports these principles and believes that the Governor and the Colorado Water Conservation Board should adhere to these principles in preparing the Colorado Water Plan.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF VAIL, COLORADO THAT:

Section 1. The Council hereby endorses the West Slope Principles and adopts the Eagle River Basin Principles for the Colorado Water Plan in the same form attached hereto as Exhibit A and Exhibit B.

Section 2. This Resolution shall take effect immediately upon its passage.

INTRODUCED, PASSED, AND ADOPTED at a regular meeting of the Town Council of the Town of Vail held this 17th day of December 2013.



Andrew P. Daly, Mayor

ATTEST:



Tammy Nagel, Acting Town Clerk



West Slope Principles for the Colorado Water Plan

1. **Solutions in the Colorado Water Plan (CWP) to supply water for growth and development in one part of the state should not over-ride land use plans and regulations adopted by local governments in the part of the state from which water will be taken.** ^{1,2,3,4,5,6,7}
 - 1.1 No new water supply projects or major changes in operation of existing projects should be planned unless agreed to by the county, conservancy district, and conservation district in the area from which water would be diverted. ^{1,3,5,6,7}
 - 1.2 The CWP must take into account pending projects, water supply plans, comprehensive land use plans, local regulatory authority, water quality plans (208 Plans), watershed plans, multi-party water agreements and related documents adopted by local governments in the area from which water would be taken. ^{1,2,3,4,5,6,7}
 - 1.3 Both the legislative basis and the legal impact of local government regulatory tools adopted to mitigate impacts of water projects should be recognized and protected. ^{3,6,7}
 - 1.4 The CWP should never elevate the agricultural interests in one part of the state over the agricultural interests in another part of the state to meet the demands of Front Range development. Agriculture is an important segment of the state's economy as a whole. Agriculture provides food independence, open space, wildlife habitat, cultural value, and economic activity wherever it is located.
 - 1.5 Any new supply projects taking water from one area of the state to another should include funding for "compensatory projects" to serve the area from which the water is taken. ⁷
2. **The CWP should protect and not threaten the economic, environmental, and social well-being of the west slope.** ^{1,2,3,5,6}
 - 2.1 The cornerstones of the west slope's economy are tourism, recreation, agriculture, and resource development, all of which are highly dependent upon water to be successful. The CWP should not facilitate additional diversions that could threaten the region's environmental, social and economic well-being. ^{1,2,3,6}
 - 2.2 To educate the public about existing conditions on the west slope, the CWP should identify the location and amounts of water that are already diverted every year from the west slope to the east slope, and discuss the historic and current consequences of those diversions. ^{1,2,3,6,9}

- 2.3 The state should not facilitate, politically, financially, or legally, any new water supply projects from the Colorado, Yampa/White or Gunnison River Basins to the Front Range without the consent of the county, conservancy district, and conservation district in the basin of origin, and unless impacts are avoided and mitigation is provided. ^{1,2,3,6 7}
- 2.4 New supply projects that involve storage on the west slope must make a significant amount of water available to west slope water uses. New supply projects that involve storage of west slope water in an east slope storage project must provide compensatory storage to protect existing and future west slope water uses, as well as the environmental and non-consumptive needs of the basin of origin. ⁷
- 2.5 The CWP must protect investments in public water and wastewater facilities by ensuring that costs to upgrade and operate these facilities do not increase because of Front Range water projects. ⁵
- 2.6 The CWP must afford recreational in-channel diversions and CWCB instream flows the same status as other water rights that are protected under Colorado law. ^{3,6} Other west slope non-consumptive water needs must be factored into the CWP.
- 2.7 Water quality protection efforts of the west slope must be respected and enhanced by the CWP. ^{4,5,6}
- 2.8 The historic use of west slope agricultural water rights provides a river flow regime that is relied upon by all west slope users and must be maintained. ⁸
- 3. **The CWP should identify a process and requirements for each basin to exhaust available water supply within its own basin before planning diversions from another area of the state.** ^{1,2,3,7}
 - 3.1 Transmountain diversion water should be re-used to extinction to the extent allowed by law, before any proposed new supply development focuses on further west slope water supply. ^{1,2,3,6,7}
 - 3.2 Re-allocation of existing supplies in areas that need more water should be evaluated (e.g. rotational fallowing, changing to new uses, deficit irrigation). ^{1,3,6,7}
 - 3.3 Front range infrastructure and water should be shared to meet future demands (e.g. WISE). Laws and regulations that improve such sharing should be considered.
 - 3.4 New Front Range in-basin projects should be pursued to fully utilize in-basin supplies (e.g. Chatfield Reallocation, SDS, Arkansas Conduit, indirect and direct

re-use, gravel pit storage projects), including maintaining and enhancing existing storage facilities. The CWP should encourage and facilitate dredging to keep capacity, and streamline efforts to enlarge storage by dredging when practical.^{3,6}

3.5 The CWP should promote mechanisms to reduce demand through agricultural or municipal efficiency/conservation, land use and smart growth policies that further water conservation, and controls on water usage.^{3,6,7} Under no circumstances should agriculture be penalized for switching to more efficient water use methods.

3.6 The CWP should reject proposals for water to supply new development when and where there are insufficient water resources available to support them under all hydrologic conditions without creating risks for other water users.^{1,3,6,7} Any new supply projects that rely on diversions from the west slope should be developed within the existing water rights system and not afforded special status.

3.7 Front Range areas with present and future projected water shortages should pursue collectively financing projects that provide water resources to their areas.

4. **The CWP should outline mechanisms to mitigate the risk of potential Compact curtailment of the Colorado River. For example, the CWP should adopt low-risk legal and hydrologic assumptions related to Colorado's obligations under the Colorado River Compact and the Upper Colorado River Basin Compact in order to minimize the risk of curtailment on existing uses of Colorado River basin water.⁷**

4.1 There is disagreement on how much, if any, additional consumptive use water is available from the Colorado River. Because of justifiable reliance and financial investment, existing uses and users should be protected and not put at risk by new development.

4.2 The facilities and methodologies for protecting existing users from a compact curtailment, as well as for mitigation, must be in place prior to any new project or methodology that would take additional water out of the Colorado River Basin.

4.3 The CWP must disclose that fully developing the state's Colorado River compact entitlement will increase the chance of a compact curtailment that would impact existing users.

4.4 New projects in the Colorado River Basin should be supported and approved, if at all, only on conditions that will allow diversion and storage at times and in amounts that will not increase the risk of compact curtailment of other post-Compact water rights.

5. **The State should not assume a role as a proponent of a water project until the State regulatory process has been completed and the project has been agreed to by the impacted counties, conservancy districts and conservation districts in the area from which water would be diverted.**

The above principles are taken from many sources of earlier water principles around the state. The numbers in the above principles indicate in which documents a similar principle may be found, including:

- ¹ Colorado 58 *Water Principles*. In approximately 1999, 58 Colorado Counties, signed onto these Water Principles, which were passed as a House Resolution as well.
- ² Colorado River Water Conservation District Policy Statement: Existing Transmountain Diversions, Adopted July 15, 2008, readopted July 2011. http://www.crwcd.org/media/uploads/20110719-policies_TMD_Existing_Projects.pdf
- ³ Colorado River Water Conservation District Policy Statement: Transmountain Diversions, adopted March 16, 2000, revised and readopted July 2011. http://www.crwcd.org/media/uploads/20110719-policies_TMDs.pdf
- ⁴ Colorado River Water Conservation District Policy Statement: Water Quality, adopted July 2010. http://www.crwcd.org/media/uploads/20100720_policy_water_quality.pdf
- ⁵ NWCCOG Water Quality/ Quantity Committee Policies, readopted November 2012.
- ⁶ 2012 NWCCOG Regional Water Quality Management Plan (208 Plan). http://nwccog.org/docs/wss/rwqmp_2012/Vol%201_Policy%20Plan%202012%20208%20Plan.pdf
- ⁷ Colorado Basin Roundtable Vision Statement (Nov. 2010).
- ⁸ Orchard Mesa Check Case, 91CW247, Water Division No. 5.
- ⁹ i.e. Senate Document No. 80, Windy Gap Project, Windy Gap Firing Project, Colorado River Cooperative Agreement

EAGLE RIVER BASIN PRINCIPLES for the Colorado Water Plan

1. Introduction. Local water districts, cities and towns, individual water users, and area water conservation and conservancy districts are the entities and individuals that own, use and develop water rights for municipal, domestic, agricultural, industrial, and recreation uses on the west slope of Colorado. As evidenced by the recent historic Colorado River Cooperative Agreement between Denver Water and the west slope of Colorado, these are the parties that know their needs, the area and regional water supplies, and what cooperative water plans and agreements are possible. It is essential that any state based water plan not attempt to supplant the role of west slope water users or seek to supersede constitutionally based Colorado water law, 1041 and local land use permit authority, water supply plans or pre-existing agreements between water rights owners. To assure Colorado's water future, the State should: assist with funding of water supply projects needed to meet locally-determined needs; support a healthy west slope (and state-wide) economy by protecting watersheds, stream flows and water quality; and abide by local land use and water plans.

2. Future Transmountain Diversions. Any future transmountain diversions from the Eagle River basin must comply with the express terms of the Eagle River Memorandum of Understanding with Colorado Springs and Aurora, the settlement with Denver Water in Case Nos. 02CW125 and 07CW126, the Colorado River Cooperative Agreement with Denver Water, Eagle County 1041 permit authority and regulations, and the Colorado water right priority system under the State Constitution. Pursuant to the foregoing agreements, any future transmountain diversion projects must result in net benefits to the Eagle River Basin.

3. Compact Calls. Any Colorado River compact call must comply with and be administered according to Colorado's constitutionally based priority system and the existing transmountain diversions of the Northern Colorado Water Conservancy District, Denver, Colorado Springs and Englewood must be subject to and comply with the terms of Senate Document 80, the Blue River Decree, and the decree for the Windy Gap Project.

4. Water Leadership. Leadership on any regional water plans that affect the Eagle River basin should come from the local water providers, the Eagle Park Reservoir Company, which owns and controls the largest storage facilities and water rights used in the Eagle River basin, and water rights owners who depend on water to support the recreational economy, such as the Vail and Beaver Creek ski areas. Any state or regional water plan must be acceptable to these entities. Additionally, Eagle County and local municipalities (the towns of Vail, Avon, Minturn, Red Cliff, Eagle, and Gypsum) are important stakeholders in water issues, and as such are represented on the Colorado Basin Roundtable, as water is integral to land use issues, the local environment, and the economy of these communities.

5. Reallocation of Water Supplies. Any effort to reallocate the area municipal, irrigation, snowmaking, and recreation water supplies and water rights to new uses and new regions must be summarily rejected.

6. New Supply Projects. Any new water supply projects must first serve the local and regional water supply needs, and fully protect the region's economic activities, area water quality, and stream health.

**TOWN OF AVON
RESOLUTION NO. 13-38**

**RESOLUTION ENDORSING THE WEST SLOPE PRINCIPLES AND
ADOPTING THE EAGLE RIVER BASIN PRINCIPLES FOR THE COLORADO WATER PLAN**

WHEREAS, the Town of Avon (the “Town”) in the County of Eagle and State of Colorado is a home rule municipal corporation duly organized and existing under laws of the State of Colorado and the Avon Town Charter; and

WHEREAS, the Town receives water services from the Upper Eagle Regional Water Authority (the “Authority”), which is authorized and empowered to supply water for domestic and other public and private purposes; and

WHEREAS, the Town benefits from Authority planning that has provided efficient, effective, and reliable water to the Authority’s service area, ranging from EagleVail through Cordillera, through development of the public water system, including water rights, storage and treatment facilities; and

WHEREAS, the Governor of the State of Colorado issued executive order D 2013-005, directing “the Colorado Water Conservation Board to commence work on the Colorado Water Plan” in May 2013; and

WHEREAS, according to the executive order, “Colorado’s water policy must reflect its water values,” including a “productive economy,” efficient water infrastructure “promoting smart land use,” and a “strong environment that includes healthy watersheds, rivers and streams, and wildlife;” and

WHEREAS, the west slope headwaters are the source of much of the water supply for the front range as well as an epicenter of Colorado’s recreation economy and wildlife resources; and

WHEREAS, local governments, water districts, watershed groups, basin roundtables, and other west slope water leaders have a deep understanding of the relationship between water resource development and the healthy watersheds, rivers and streams, and wildlife; and

WHEREAS, west slope organizations have been engaged in land use and water planning both locally and with Front Range water interests for many years and desire that this experience inform the Colorado Water Plan process; and

WHEREAS, Eagle River basin water providers have led cross-basin negotiations that have protected local rivers and streams, thereby providing for municipal water supply, recreational uses, environmental flows, and healthy watersheds; and

WHEREAS, Eagle River basin water providers developed principles to assure the certainty of existing and planned future water supply; and

WHEREAS, the Town and Authority are members of the Northwest Colorado Council of Governments' Water Quality/Quantity Committee which developed the *West Slope Principles* in collaboration with members of the west slope Basin Roundtables and the communities they represent; and

WHEREAS, the Avon Town Council supports these principles and believes that the Governor and the Colorado Water Conservation Board should adhere to these principles in preparing the Colorado Water Plan.

NOW, THEREFORE, BE IT RESOLVED that the Town Council of the Town of Avon endorse the West Slope Principles for the Colorado Water Plan, attached hereto as Exhibit A, and hereby further adopt the principles more specific to the Eagle River basin, attached hereto as Exhibit B.

ADOPTED this 10th day of December 2013, by a vote of 6 in favor and 0 opposed, 1 absent.

TOWN OF AVON, COLORADO

By: _____

Rich Carroll, Mayor

ATTEST:

By: _____

Patty McKenny, Town Clerk

West Slope Principles for the Colorado Water Plan

1. **Solutions in the Colorado Water Plan (CWP) to supply water for growth and development in one part of the state should not over-ride land use plans and regulations adopted by local governments in the part of the state from which water will be taken.** ^{1,2,3,4,5,6,7}
 - 1.1 No new water supply projects or major changes in operation of existing projects should be planned unless agreed to by the county, conservancy district, and conservation district in the area from which water would be diverted. ^{1,3,5,6,7}
 - 1.2 The CWP must take into account pending projects, water supply plans, comprehensive land use plans, local regulatory authority, water quality plans (208 Plans), watershed plans, multi-party water agreements and related documents adopted by local governments in the area from which water would be taken. ^{1,2,3,4,5,6,7}
 - 1.3 Both the legislative basis and the legal impact of local government regulatory tools adopted to mitigate impacts of water projects should be recognized and protected. ^{3,6,7}
 - 1.4 The CWP should never elevate the agricultural interests in one part of the state over the agricultural interests in another part of the state to meet the demands of Front Range development. Agriculture is an important segment of the state's economy as a whole. Agriculture provides food independence, open space, wildlife habitat, cultural value, and economic activity wherever it is located.
 - 1.5 Any new supply projects taking water from one area of the state to another should include funding for "compensatory projects" to serve the area from which the water is taken. ⁷
2. **The CWP should protect and not threaten the economic, environmental, and social well-being of the west slope.** ^{1,2,3,5,6}
 - 2.1 The cornerstones of the west slope's economy are tourism, recreation, agriculture, and resource development, all of which are highly dependent upon water to be successful. The CWP should not facilitate additional diversions that could threaten the region's environmental, social and economic well-being. ^{1,2,3,6}
 - 2.2 To educate the public about existing conditions on the west slope, the CWP should identify the location and amounts of water that are already diverted every year from the west slope to the east slope, and discuss the historic and current consequences of those diversions. ^{1,2,3,6,9}

- 2.3 The state should not facilitate, politically, financially, or legally, any new water supply projects from the Colorado, Yampa/White or Gunnison River Basins to the Front Range without the consent of the county, conservancy district, and conservation district in the basin of origin, and unless impacts are avoided and mitigation is provided. ^{1,2,3,6,7}
- 2.4 New supply projects that involve storage on the west slope must make a significant amount of water available to west slope water uses. New supply projects that involve storage of west slope water in an east slope storage project must provide compensatory storage to protect existing and future west slope water uses, as well as the environmental and non-consumptive needs of the basin of origin. ⁷
- 2.5 The CWP must protect investments in public water and wastewater facilities by ensuring that costs to upgrade and operate these facilities do not increase because of Front Range water projects. ⁵
- 2.6 The CWP must afford recreational in-channel diversions and CWCB instream flows the same status as other water rights that are protected under Colorado law. ^{3,6} Other west slope non-consumptive water needs must be factored into the CWP.
- 2.7 Water quality protection efforts of the west slope must be respected and enhanced by the CWP. ^{4,5,6}
- 2.8 The historic use of west slope agricultural water rights provides a river flow regime that is relied upon by all west slope users and must be maintained. ⁸
- 3. **The CWP should identify a process and requirements for each basin to exhaust available water supply within its own basin before planning diversions from another area of the state.** ^{1,2,3,7}
 - 3.1 Transmountain diversion water should be re-used to extinction to the extent allowed by law, before any proposed new supply development focuses on further west slope water supply. ^{1,2,3,6,7}
 - 3.2 Re-allocation of existing supplies in areas that need more water should be evaluated (e.g. rotational fallowing, changing to new uses, deficit irrigation). ^{1,3,6,7}
 - 3.3 Front range infrastructure and water should be shared to meet future demands (e.g. WISE). Laws and regulations that improve such sharing should be considered.
 - 3.4 New Front Range in-basin projects should be pursued to fully utilize in-basin supplies (e.g. Chatfield Reallocation, SDS, Arkansas Conduit, indirect and direct

re-use, gravel pit storage projects), including maintaining and enhancing existing storage facilities. The CWP should encourage and facilitate dredging to keep capacity, and streamline efforts to enlarge storage by dredging when practical.^{3,6}

- 3.5 The CWP should promote mechanisms to reduce demand through agricultural or municipal efficiency/conservation, land use and smart growth policies that further water conservation, and controls on water usage.^{3,6,7} Under no circumstances should agriculture be penalized for switching to more efficient water use methods.
 - 3.6 The CWP should reject proposals for water to supply new development when and where there are insufficient water resources available to support them under all hydrologic conditions without creating risks for other water users.^{1,3,6,7} Any new supply projects that rely on diversions from the west slope should be developed within the existing water rights system and not afforded special status.
 - 3.7 Front Range areas with present and future projected water shortages should pursue collectively financing projects that provide water resources to their areas.
4. **The CWP should outline mechanisms to mitigate the risk of potential Compact curtailment of the Colorado River. For example, the CWP should adopt low-risk legal and hydrologic assumptions related to Colorado's obligations under the Colorado River Compact and the Upper Colorado River Basin Compact in order to minimize the risk of curtailment on existing uses of Colorado River basin water.⁷**
- 4.1 There is disagreement on how much, if any, additional consumptive use water is available from the Colorado River. Because of justifiable reliance and financial investment, existing uses and users should be protected and not put at risk by new development.
 - 4.2 The facilities and methodologies for protecting existing users from a compact curtailment, as well as for mitigation, must be in place prior to any new project or methodology that would take additional water out of the Colorado River Basin.
 - 4.3 The CWP must disclose that fully developing the state's Colorado River compact entitlement will increase the chance of a compact curtailment that would impact existing users.
 - 4.4 New projects in the Colorado River Basin should be supported and approved, if at all, only on conditions that will allow diversion and storage at times and in amounts that will not increase the risk of compact curtailment of other post-Compact water rights.

5. **The State should not assume a role as a proponent of a water project until the State regulatory process has been completed and the project has been agreed to by the impacted counties, conservancy districts and conservation districts in the area from which water would be diverted.**

The above principles are taken from many sources of earlier water principles around the state. The numbers in the above principles indicate in which documents a similar principle may be found, including:

- ¹ Colorado 58 *Water Principles*. In approximately 1999, 58 Colorado Counties, signed onto these Water Principles, which were passed as a House Resolution as well.
- ² Colorado River Water Conservation District Policy Statement: Existing Transmountain Diversions, Adopted July 15, 2008, readopted July 2011. http://www.crwcd.org/media/uploads/20110719-policies_TMD_Existing_Projects.pdf
- ³ Colorado River Water Conservation District Policy Statement: Transmountain Diversions, adopted March 16, 2000, revised and readopted July 2011. http://www.crwcd.org/media/uploads/20110719-policies_TMDs.pdf
- ⁴ Colorado River Water Conservation District Policy Statement: Water Quality, adopted July 2010. http://www.crwcd.org/media/uploads/20100720_policy_water_quality.pdf
- ⁵ NWCCOG Water Quality/ Quantity Committee Policies, readopted November 2012.
- ⁶ 2012 NWCCOG Regional Water Quality Management Plan (208 Plan). http://nwccog.org/docs/wss/rwqmp_2012/Vol%201_Policy%20Plan%202012%20208%20Plan.pdf
- ⁷ Colorado Basin Roundtable Vision Statement (Nov. 2010).
- ⁸ Orchard Mesa Check Case, 91CW247, Water Division No. 5.
- ⁹ i.e. Senate Document No. 80, Windy Gap Project, Windy Gap Firing Project, Colorado River Cooperative Agreement

EAGLE RIVER BASIN PRINCIPLES for the Colorado Water Plan

1. Introduction. Local water districts, cities and towns, individual water users, and area water conservation and conservancy districts are the entities and individuals that own, use and develop water rights for municipal, domestic, agricultural, industrial, and recreation uses on the west slope of Colorado. As evidenced by the recent historic Colorado River Cooperative Agreement between Denver Water and the west slope of Colorado, these are the parties that know their needs, the area and regional water supplies, and what cooperative water plans and agreements are possible. It is essential that any state based water plan not attempt to supplant the role of west slope water users or seek to supersede constitutionally based Colorado water law, 1041 and local land use permit authority, water supply plans or pre-existing agreements between water rights owners. To assure Colorado's water future, the State should: assist with funding of water supply projects needed to meet locally-determined needs; support a healthy west slope (and state-wide) economy by protecting watersheds, stream flows and water quality; and abide by local land use and water plans.
2. Future Transmountain Diversions. Any future transmountain diversions from the Eagle River basin must comply with the express terms of the Eagle River Memorandum of Understanding with Colorado Springs and Aurora, the settlement with Denver Water in Case Nos. 02CW125 and 07CW126, the Colorado River Cooperative Agreement with Denver Water, Eagle County 1041 permit authority and regulations, and the Colorado water right priority system under the State Constitution. Pursuant to the foregoing agreements, any future transmountain diversion projects must result in net benefits to the Eagle River Basin.
3. Compact Calls. Any Colorado River compact call must comply with and be administered according to Colorado's constitutionally based priority system and the existing transmountain diversions of the Northern Colorado Water Conservancy District, Denver, Colorado Springs and Englewood must be subject to and comply with the terms of Senate Document 80, the Blue River Decree, and the decree for the Windy Gap Project.
4. Water Leadership. Leadership on any regional water plans that affect the Eagle River basin should come from the local water providers, the Eagle Park Reservoir Company, which owns and controls the largest storage facilities and water rights used in the Eagle River basin, and water rights owners who depend on water to support the recreational economy, such as the Vail and Beaver Creek ski areas. Any state or regional water plan must be acceptable to these entities. Additionally, Eagle County and local municipalities (the towns of Vail, Avon, Minturn, Red Cliff, Eagle, and Gypsum) are important stakeholders in water issues, and as such are represented on the Colorado Basin Roundtable, as water is integral to land use issues, the local environment, and the economy of these communities.
5. Reallocation of Water Supplies. Any effort to reallocate the area municipal, irrigation, snowmaking, and recreation water supplies and water rights to new uses and new regions must be summarily rejected.
6. New Supply Projects. Any new water supply projects must first serve the local and regional water supply needs, and fully protect the region's economic activities, area water quality, and stream health.

ARROWHEAD METROPOLITAN DISTRICT
RESOLUTION ENDORSING THE WEST SLOPE PRINCIPLES AND
ADOPTING THE EAGLE RIVER BASIN PRINCIPLES FOR THE COLORADO WATER PLAN

WHEREAS, the Arrowhead Metropolitan District ("District") is a quasi-municipal corporation and political subdivision of the State of Colorado and a duly organized and existing special district pursuant to the provisions of Article 1, Title 32, Colorado Revised Statutes ("Special District Act"); and

WHEREAS, the District receives water services from the Upper Eagle Regional Water Authority ("Authority"), which is authorized and empowered to supply water for domestic and other public and private purposes; and

WHEREAS, the District benefits from Authority planning that has provided efficient, effective, and reliable water to the Authority's service area, ranging from EagleVail through Cordillera, through development of the public water system, including water rights, storage and treatment facilities; and

WHEREAS, the Governor of the State of Colorado issued executive order D 2013-005, directing "the Colorado Water Conservation Board to commence work on the Colorado Water Plan" in May 2013; and

WHEREAS, according to the executive order, "Colorado's water policy must reflect its water values," including a "productive economy," efficient water infrastructure "promoting smart land use," and a "strong environment that includes healthy watersheds, rivers and streams, and wildlife;" and

WHEREAS, the west slope headwaters are the source of much of the water supply for the Front Range as well as an epicenter of Colorado's recreation economy and wildlife resources; and

WHEREAS, local governments, water districts, watershed groups, basin roundtables, and other west slope water leaders have a deep understanding of the relationship between water resource development and the healthy watersheds, rivers and streams, and wildlife; and

WHEREAS, west slope organizations have been engaged in land use and water planning both locally and with Front Range water interests for many years and desire that this experience inform the Colorado Water Plan process; and

WHEREAS, Eagle River basin water providers have led cross-basin negotiations that have protected local rivers and streams, thereby providing for municipal water supply, recreational uses, environmental flows, and healthy watersheds; and

WHEREAS, Eagle River basin water providers developed principles to assure the certainty of existing and planned future water supply; and

WHEREAS, the District and Authority support the Northwest Colorado Council of Governments' Water Quality/Quantity Committee, which developed the *West Slope Principles* in collaboration with members of the west slope Basin Roundtables and the communities they represent; and

WHEREAS, the Arrowhead Metropolitan District Board of Directors supports these principles and believes that the Governor and the Colorado Water Conservation Board should adhere to these principles in preparing the Colorado Water Plan.

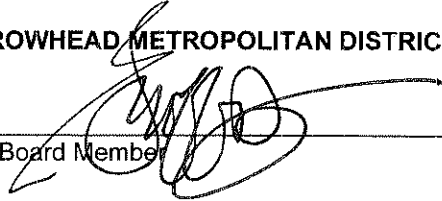
NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE ARROWHEAD METROPOLITAN DISTRICT, THAT:

Section 1. The Board hereby endorses the West Slope Principles and adopts the Eagle River Basin Principles for the Colorado Water Plan in the same form attached hereto as Exhibit A and Exhibit B.

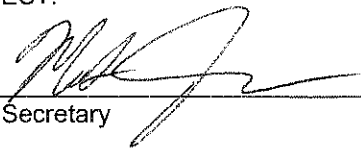
Section 2. This Resolution shall take effect immediately upon its passage.

INTRODUCED, PASSED, AND ADOPTED at a regular meeting of the Board of Directors of the Arrowhead Metropolitan District held this 22nd day of January 2014.

ARROWHEAD METROPOLITAN DISTRICT

By: 
Board Member

ATTEST:

By: 
Secretary

BERRY CREEK METROPOLITAN DISTRICT
RESOLUTION ENDORSING THE WEST SLOPE PRINCIPLES AND
ADOPTING THE EAGLE RIVER BASIN PRINCIPLES FOR THE COLORADO WATER PLAN

WHEREAS, the Berry Creek Metropolitan District (“District”) is a quasi-municipal corporation and political subdivision of the State of Colorado and a duly organized and existing special district pursuant to Title 32, Colorado Revised Statutes; and

WHEREAS, the District receives water services from the Upper Eagle Regional Water Authority (“Authority”), which is authorized and empowered to supply water for domestic and other public and private purposes; and

WHEREAS, the District benefits from Authority planning that has provided efficient, effective, and reliable water to the Authority’s service area, ranging from EagleVail through Cordillera, through development of the public water system, including water rights, storage and treatment facilities; and

WHEREAS, the Governor of the State of Colorado issued executive order D 2013-005, directing “the Colorado Water Conservation Board to commence work on the Colorado Water Plan” in May 2013; and

WHEREAS, according to the executive order, “Colorado’s water policy must reflect its water values,” including a “productive economy,” efficient water infrastructure “promoting smart land use,” and a “strong environment that includes healthy watersheds, rivers and streams, and wildlife;” and

WHEREAS, the west slope headwaters are the source of much of the water supply for the Front Range as well as an epicenter of Colorado’s recreation economy and wildlife resources; and

WHEREAS, local governments, water districts, watershed groups, basin roundtables, and other west slope water leaders have a deep understanding of the relationship between water resource development and the healthy watersheds, rivers and streams, and wildlife; and

WHEREAS, west slope organizations have been engaged in land use and water planning both locally and with Front Range water interests for many years and desire that this experience inform the Colorado Water Plan process; and

WHEREAS, Eagle River basin water providers have led cross-basin negotiations that have protected local rivers and streams, thereby providing for municipal water supply, recreational uses, environmental flows, and healthy watersheds; and

WHEREAS, Eagle River basin water providers developed principles to assure the certainty of existing and planned future water supply; and

WHEREAS, the District and Authority support the Northwest Colorado Council of Governments’ Water Quality/Quantity Committee, which developed the *West Slope Principles* in collaboration with members of the west slope Basin Roundtables and the communities they represent; and

WHEREAS, the Berry Creek Metropolitan District Board of Directors supports these principles and believes that the Governor and the Colorado Water Conservation Board should adhere to these principles in preparing the Colorado Water Plan.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE BERRY CREEK METROPOLITAN DISTRICT, THAT:

Section 1. The Board hereby endorses the West Slope Principles and adopts the Eagle River Basin Principles for the Colorado Water Plan in the same form attached hereto as Exhibit A and Exhibit B.

Section 2. This Resolution shall take effect immediately upon its passage.

INTRODUCED, PASSED, AND ADOPTED at a regular meeting of the Board of Directors of the Berry Creek Metropolitan District held this 28th day of January 2014.

BERRY CREEK METROPOLITAN DISTRICT

By: _____

George Gregory, Chair

ATTEST:

By: _____

Dan Godec, Secretary

West Slope Principles for the Colorado Water Plan

1. **Solutions in the Colorado Water Plan (CWP) to supply water for growth and development in one part of the state should not over-ride land use plans and regulations adopted by local governments in the part of the state from which water will be taken.** ^{1,2,3,4,5,6,7}
 - 1.1 No new water supply projects or major changes in operation of existing projects should be planned unless agreed to by the county, conservancy district, and conservation district in the area from which water would be diverted. ^{1,3,5,6,7}
 - 1.2 The CWP must take into account pending projects, water supply plans, comprehensive land use plans, local regulatory authority, water quality plans (208 Plans), watershed plans, multi-party water agreements and related documents adopted by local governments in the area from which water would be taken. ^{1,2,3,4,5,6,7}
 - 1.3 Both the legislative basis and the legal impact of local government regulatory tools adopted to mitigate impacts of water projects should be recognized and protected. ^{3,6,7}
 - 1.4 The CWP should never elevate the agricultural interests in one part of the state over the agricultural interests in another part of the state to meet the demands of Front Range development. Agriculture is an important segment of the state's economy as a whole. Agriculture provides food independence, open space, wildlife habitat, cultural value, and economic activity wherever it is located.
 - 1.5 Any new supply projects taking water from one area of the state to another should include funding for "compensatory projects" to serve the area from which the water is taken. ⁷
2. **The CWP should protect and not threaten the economic, environmental, and social well-being of the west slope.** ^{1,2,3,5,6}
 - 2.1 The cornerstones of the west slope's economy are tourism, recreation, agriculture, and resource development, all of which are highly dependent upon water to be successful. The CWP should not facilitate additional diversions that could threaten the region's environmental, social and economic well-being. ^{1,2,3,6}
 - 2.2 To educate the public about existing conditions on the west slope, the CWP should identify the location and amounts of water that are already diverted every year from the west slope to the east slope, and discuss the historic and current consequences of those diversions. ^{1,2,3,6,9}

- 2.3 The state should not facilitate, politically, financially, or legally, any new water supply projects from the Colorado, Yampa/White or Gunnison River Basins to the Front Range without the consent of the county, conservancy district, and conservation district in the basin of origin, and unless impacts are avoided and mitigation is provided. ^{1,2,3,6 7}
- 2.4 New supply projects that involve storage on the west slope must make a significant amount of water available to west slope water uses. New supply projects that involve storage of west slope water in an east slope storage project must provide compensatory storage to protect existing and future west slope water uses, as well as the environmental and non-consumptive needs of the basin of origin. ⁷
- 2.5 The CWP must protect investments in public water and wastewater facilities by ensuring that costs to upgrade and operate these facilities do not increase because of Front Range water projects. ⁵
- 2.6 The CWP must afford recreational in-channel diversions and CWCB instream flows the same status as other water rights that are protected under Colorado law. ^{3,6} Other west slope non-consumptive water needs must be factored into the CWP.
- 2.7 Water quality protection efforts of the west slope must be respected and enhanced by the CWP. ^{4,5,6}
- 2.8 The historic use of west slope agricultural water rights provides a river flow regime that is relied upon by all west slope users and must be maintained. ⁸
- 3. **The CWP should identify a process and requirements for each basin to exhaust available water supply within its own basin before planning diversions from another area of the state.** ^{1,2,3,7}
 - 3.1 Transmountain diversion water should be re-used to extinction to the extent allowed by law, before any proposed new supply development focuses on further west slope water supply. ^{1,2,3,6,7}
 - 3.2 Re-allocation of existing supplies in areas that need more water should be evaluated (e.g. rotational fallowing, changing to new uses, deficit irrigation). ^{1,3,6,7}
 - 3.3 Front range infrastructure and water should be shared to meet future demands (e.g. WISE). Laws and regulations that improve such sharing should be considered.
 - 3.4 New Front Range in-basin projects should be pursued to fully utilize in-basin supplies (e.g. Chatfield Reallocation, SDS, Arkansas Conduit, indirect and direct

re-use, gravel pit storage projects), including maintaining and enhancing existing storage facilities. The CWP should encourage and facilitate dredging to keep capacity, and streamline efforts to enlarge storage by dredging when practical.^{3,6}

- 3.5 The CWP should promote mechanisms to reduce demand through agricultural or municipal efficiency/conservation, land use and smart growth policies that further water conservation, and controls on water usage.^{3,6,7} Under no circumstances should agriculture be penalized for switching to more efficient water use methods.
- 3.6 The CWP should reject proposals for water to supply new development when and where there are insufficient water resources available to support them under all hydrologic conditions without creating risks for other water users.^{1,3,6,7} Any new supply projects that rely on diversions from the west slope should be developed within the existing water rights system and not afforded special status.
- 3.7 Front Range areas with present and future projected water shortages should pursue collectively financing projects that provide water resources to their areas.

4. **The CWP should outline mechanisms to mitigate the risk of potential Compact curtailment of the Colorado River. For example, the CWP should adopt low-risk legal and hydrologic assumptions related to Colorado's obligations under the Colorado River Compact and the Upper Colorado River Basin Compact in order to minimize the risk of curtailment on existing uses of Colorado River basin water.⁷**

- 4.1 There is disagreement on how much, if any, additional consumptive use water is available from the Colorado River. Because of justifiable reliance and financial investment, existing uses and users should be protected and not put at risk by new development.
- 4.2 The facilities and methodologies for protecting existing users from a compact curtailment, as well as for mitigation, must be in place prior to any new project or methodology that would take additional water out of the Colorado River Basin.
- 4.3 The CWP must disclose that fully developing the state's Colorado River compact entitlement will increase the chance of a compact curtailment that would impact existing users.
- 4.4 New projects in the Colorado River Basin should be supported and approved, if at all, only on conditions that will allow diversion and storage at times and in amounts that will not increase the risk of compact curtailment of other post-Compact water rights.

5. **The State should not assume a role as a proponent of a water project until the State regulatory process has been completed and the project has been agreed to by the impacted counties, conservancy districts and conservation districts in the area from which water would be diverted.**

The above principles are taken from many sources of earlier water principles around the state. The numbers in the above principles indicate in which documents a similar principle may be found, including:

- ¹ Colorado 58 *Water Principles*. In approximately 1999, 58 Colorado Counties, signed onto these Water Principles, which were passed as a House Resolution as well.
- ² Colorado River Water Conservation District Policy Statement: Existing Transmountain Diversions, Adopted July 15, 2008, readopted July 2011. http://www.crwcd.org/media/uploads/20110719-policies_TMD_Existing_Projects.pdf
- ³ Colorado River Water Conservation District Policy Statement: Transmountain Diversions, adopted March 16, 2000, revised and readopted July 2011. http://www.crwcd.org/media/uploads/20110719-policies_TMDs.pdf
- ⁴ Colorado River Water Conservation District Policy Statement: Water Quality, adopted July 2010. http://www.crwcd.org/media/uploads/20100720_policy_water_quality.pdf
- ⁵ NWCCOG Water Quality/ Quantity Committee Policies, readopted November 2012.
- ⁶ 2012 NWCCOG Regional Water Quality Management Plan (208 Plan). http://nwccog.org/docs/wss/rwqmp_2012/Vol%201_Policy%20Plan%202012%20208%20Plan.pdf
- ⁷ Colorado Basin Roundtable Vision Statement (Nov. 2010).
- ⁸ Orchard Mesa Check Case, 91CW247, Water Division No. 5.
- ⁹ i.e. Senate Document No. 80, Windy Gap Project, Windy Gap Firing Project, Colorado River Cooperative Agreement

EAGLE RIVER BASIN PRINCIPLES for the Colorado Water Plan

1. Introduction. Local water districts, cities and towns, individual water users, and area water conservation and conservancy districts are the entities and individuals that own, use and develop water rights for municipal, domestic, agricultural, industrial, and recreation uses on the west slope of Colorado. As evidenced by the recent historic Colorado River Cooperative Agreement between Denver Water and the west slope of Colorado, these are the parties that know their needs, the area and regional water supplies, and what cooperative water plans and agreements are possible. It is essential that any state based water plan not attempt to supplant the role of west slope water users or seek to supersede constitutionally based Colorado water law, 1041 and local land use permit authority, water supply plans or pre-existing agreements between water rights owners. To assure Colorado's water future, the State should: assist with funding of water supply projects needed to meet locally-determined needs; support a healthy west slope (and state-wide) economy by protecting watersheds, stream flows and water quality; and abide by local land use and water plans.

2. Future Transmountain Diversions. Any future transmountain diversions from the Eagle River basin must comply with the express terms of the Eagle River Memorandum of Understanding with Colorado Springs and Aurora, the settlement with Denver Water in Case Nos. 02CW125 and 07CW126, the Colorado River Cooperative Agreement with Denver Water, Eagle County 1041 permit authority and regulations, and the Colorado water right priority system under the State Constitution. Pursuant to the foregoing agreements, any future transmountain diversion projects must result in net benefits to the Eagle River Basin.

3. Compact Calls. Any Colorado River compact call must comply with and be administered according to Colorado's constitutionally based priority system and the existing transmountain diversions of the Northern Colorado Water Conservancy District, Denver, Colorado Springs and Englewood must be subject to and comply with the terms of Senate Document 80, the Blue River Decree, and the decree for the Windy Gap Project.

4. Water Leadership. Leadership on any regional water plans that affect the Eagle River basin should come from the local water providers, the Eagle Park Reservoir Company, which owns and controls the largest storage facilities and water rights used in the Eagle River basin, and water rights owners who depend on water to support the recreational economy, such as the Vail and Beaver Creek ski areas. Any state or regional water plan must be acceptable to these entities. Additionally, Eagle County and local municipalities (the towns of Vail, Avon, Minturn, Red Cliff, Eagle, and Gypsum) are important stakeholders in water issues, and as such are represented on the Colorado Basin Roundtable, as water is integral to land use issues, the local environment, and the economy of these communities.

5. Reallocation of Water Supplies. Any effort to reallocate the area municipal, irrigation, snowmaking, and recreation water supplies and water rights to new uses and new regions must be summarily rejected.

6. New Supply Projects. Any new water supply projects must first serve the local and regional water supply needs, and fully protect the region's economic activities, area water quality, and stream health.

BERRY CREEK METROPOLITAN DISTRICT
RESOLUTION ENDORSING THE WEST SLOPE PRINCIPLES AND
ADOPTING THE EAGLE RIVER BASIN PRINCIPLES FOR THE COLORADO WATER PLAN

WHEREAS, the Berry Creek Metropolitan District (“District”) is a quasi-municipal corporation and political subdivision of the State of Colorado and a duly organized and existing special district pursuant to Title 32, Colorado Revised Statutes; and

WHEREAS, the District receives water services from the Upper Eagle Regional Water Authority (“Authority”), which is authorized and empowered to supply water for domestic and other public and private purposes; and

WHEREAS, the District benefits from Authority planning that has provided efficient, effective, and reliable water to the Authority’s service area, ranging from EagleVail through Cordillera, through development of the public water system, including water rights, storage and treatment facilities; and

WHEREAS, the Governor of the State of Colorado issued executive order D 2013-005, directing “the Colorado Water Conservation Board to commence work on the Colorado Water Plan” in May 2013; and

WHEREAS, according to the executive order, “Colorado’s water policy must reflect its water values,” including a “productive economy,” efficient water infrastructure “promoting smart land use,” and a “strong environment that includes healthy watersheds, rivers and streams, and wildlife;” and

WHEREAS, the west slope headwaters are the source of much of the water supply for the Front Range as well as an epicenter of Colorado’s recreation economy and wildlife resources; and

WHEREAS, local governments, water districts, watershed groups, basin roundtables, and other west slope water leaders have a deep understanding of the relationship between water resource development and the healthy watersheds, rivers and streams, and wildlife; and

WHEREAS, west slope organizations have been engaged in land use and water planning both locally and with Front Range water interests for many years and desire that this experience inform the Colorado Water Plan process; and

WHEREAS, Eagle River basin water providers have led cross-basin negotiations that have protected local rivers and streams, thereby providing for municipal water supply, recreational uses, environmental flows, and healthy watersheds; and

WHEREAS, Eagle River basin water providers developed principles to assure the certainty of existing and planned future water supply; and

WHEREAS, the District and Authority support the Northwest Colorado Council of Governments’ Water Quality/Quantity Committee, which developed the *West Slope Principles* in collaboration with members of the west slope Basin Roundtables and the communities they represent; and

WHEREAS, the Berry Creek Metropolitan District Board of Directors supports these principles and believes that the Governor and the Colorado Water Conservation Board should adhere to these principles in preparing the Colorado Water Plan.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE BERRY CREEK METROPOLITAN DISTRICT, THAT:

Section 1. The Board hereby endorses the West Slope Principles and adopts the Eagle River Basin Principles for the Colorado Water Plan in the same form attached hereto as Exhibit A and Exhibit B.

Section 2. This Resolution shall take effect immediately upon its passage.

INTRODUCED, PASSED, AND ADOPTED at a regular meeting of the Board of Directors of the Berry Creek Metropolitan District held this 28th day of January 2014.

BERRY CREEK METROPOLITAN DISTRICT

By: _____

George Gregory, Chair

ATTEST:

By: _____

Dan Godec, Secretary

West Slope Principles for the Colorado Water Plan

1. **Solutions in the Colorado Water Plan (CWP) to supply water for growth and development in one part of the state should not over-ride land use plans and regulations adopted by local governments in the part of the state from which water will be taken.** ^{1,2,3,4,5,6,7}
 - 1.1 No new water supply projects or major changes in operation of existing projects should be planned unless agreed to by the county, conservancy district, and conservation district in the area from which water would be diverted. ^{1,3,5,6,7}
 - 1.2 The CWP must take into account pending projects, water supply plans, comprehensive land use plans, local regulatory authority, water quality plans (208 Plans), watershed plans, multi-party water agreements and related documents adopted by local governments in the area from which water would be taken. ^{1,2,3,4,5,6,7}
 - 1.3 Both the legislative basis and the legal impact of local government regulatory tools adopted to mitigate impacts of water projects should be recognized and protected. ^{3,6,7}
 - 1.4 The CWP should never elevate the agricultural interests in one part of the state over the agricultural interests in another part of the state to meet the demands of Front Range development. Agriculture is an important segment of the state's economy as a whole. Agriculture provides food independence, open space, wildlife habitat, cultural value, and economic activity wherever it is located.
 - 1.5 Any new supply projects taking water from one area of the state to another should include funding for "compensatory projects" to serve the area from which the water is taken. ⁷
2. **The CWP should protect and not threaten the economic, environmental, and social well-being of the west slope.** ^{1,2,3,5,6}
 - 2.1 The cornerstones of the west slope's economy are tourism, recreation, agriculture, and resource development, all of which are highly dependent upon water to be successful. The CWP should not facilitate additional diversions that could threaten the region's environmental, social and economic well-being. ^{1,2,3,6}
 - 2.2 To educate the public about existing conditions on the west slope, the CWP should identify the location and amounts of water that are already diverted every year from the west slope to the east slope, and discuss the historic and current consequences of those diversions. ^{1,2,3,6,9}

- 2.3 The state should not facilitate, politically, financially, or legally, any new water supply projects from the Colorado, Yampa/White or Gunnison River Basins to the Front Range without the consent of the county, conservancy district, and conservation district in the basin of origin, and unless impacts are avoided and mitigation is provided. ^{1,2,3,6 7}
- 2.4 New supply projects that involve storage on the west slope must make a significant amount of water available to west slope water uses. New supply projects that involve storage of west slope water in an east slope storage project must provide compensatory storage to protect existing and future west slope water uses, as well as the environmental and non-consumptive needs of the basin of origin. ⁷
- 2.5 The CWP must protect investments in public water and wastewater facilities by ensuring that costs to upgrade and operate these facilities do not increase because of Front Range water projects. ⁵
- 2.6 The CWP must afford recreational in-channel diversions and CWCB instream flows the same status as other water rights that are protected under Colorado law. ^{3,6} Other west slope non-consumptive water needs must be factored into the CWP.
- 2.7 Water quality protection efforts of the west slope must be respected and enhanced by the CWP. ^{4,5,6}
- 2.8 The historic use of west slope agricultural water rights provides a river flow regime that is relied upon by all west slope users and must be maintained. ⁸
- 3. **The CWP should identify a process and requirements for each basin to exhaust available water supply within its own basin before planning diversions from another area of the state.** ^{1,2,3,7}
 - 3.1 Transmountain diversion water should be re-used to extinction to the extent allowed by law, before any proposed new supply development focuses on further west slope water supply. ^{1,2,3,6,7}
 - 3.2 Re-allocation of existing supplies in areas that need more water should be evaluated (e.g. rotational fallowing, changing to new uses, deficit irrigation). ^{1,3,6,7}
 - 3.3 Front range infrastructure and water should be shared to meet future demands (e.g. WISE). Laws and regulations that improve such sharing should be considered.
 - 3.4 New Front Range in-basin projects should be pursued to fully utilize in-basin supplies (e.g. Chatfield Reallocation, SDS, Arkansas Conduit, indirect and direct

re-use, gravel pit storage projects), including maintaining and enhancing existing storage facilities. The CWP should encourage and facilitate dredging to keep capacity, and streamline efforts to enlarge storage by dredging when practical.^{3,6}

3.5 The CWP should promote mechanisms to reduce demand through agricultural or municipal efficiency/conservation, land use and smart growth policies that further water conservation, and controls on water usage.^{3,6,7} Under no circumstances should agriculture be penalized for switching to more efficient water use methods.

3.6 The CWP should reject proposals for water to supply new development when and where there are insufficient water resources available to support them under all hydrologic conditions without creating risks for other water users.^{1,3,6,7} Any new supply projects that rely on diversions from the west slope should be developed within the existing water rights system and not afforded special status.

3.7 Front Range areas with present and future projected water shortages should pursue collectively financing projects that provide water resources to their areas.

4. **The CWP should outline mechanisms to mitigate the risk of potential Compact curtailment of the Colorado River. For example, the CWP should adopt low-risk legal and hydrologic assumptions related to Colorado's obligations under the Colorado River Compact and the Upper Colorado River Basin Compact in order to minimize the risk of curtailment on existing uses of Colorado River basin water.⁷**

4.1 There is disagreement on how much, if any, additional consumptive use water is available from the Colorado River. Because of justifiable reliance and financial investment, existing uses and users should be protected and not put at risk by new development.

4.2 The facilities and methodologies for protecting existing users from a compact curtailment, as well as for mitigation, must be in place prior to any new project or methodology that would take additional water out of the Colorado River Basin.

4.3 The CWP must disclose that fully developing the state's Colorado River compact entitlement will increase the chance of a compact curtailment that would impact existing users.

4.4 New projects in the Colorado River Basin should be supported and approved, if at all, only on conditions that will allow diversion and storage at times and in amounts that will not increase the risk of compact curtailment of other post-Compact water rights.

5. **The State should not assume a role as a proponent of a water project until the State regulatory process has been completed and the project has been agreed to by the impacted counties, conservancy districts and conservation districts in the area from which water would be diverted.**

The above principles are taken from many sources of earlier water principles around the state. The numbers in the above principles indicate in which documents a similar principle may be found, including:

- ¹ Colorado 58 *Water Principles*. In approximately 1999, 58 Colorado Counties, signed onto these Water Principles, which were passed as a House Resolution as well.
- ² Colorado River Water Conservation District Policy Statement: Existing Transmountain Diversions, Adopted July 15, 2008, readopted July 2011. http://www.crwcd.org/media/uploads/20110719-policies_TMD_Existing_Projects.pdf
- ³ Colorado River Water Conservation District Policy Statement: Transmountain Diversions, adopted March 16, 2000, revised and readopted July 2011. http://www.crwcd.org/media/uploads/20110719-policies_TMDs.pdf
- ⁴ Colorado River Water Conservation District Policy Statement: Water Quality, adopted July 2010. http://www.crwcd.org/media/uploads/20100720_policy_water_quality.pdf
- ⁵ NWCCOG Water Quality/ Quantity Committee Policies, readopted November 2012.
- ⁶ 2012 NWCCOG Regional Water Quality Management Plan (208 Plan). http://nwccog.org/docs/wss/rwqmp_2012/Vol%201_Policy%20Plan%202012%20208%20Plan.pdf
- ⁷ Colorado Basin Roundtable Vision Statement (Nov. 2010).
- ⁸ Orchard Mesa Check Case, 91CW247, Water Division No. 5.
- ⁹ i.e. Senate Document No. 80, Windy Gap Project, Windy Gap Firing Project, Colorado River Cooperative Agreement

EAGLE RIVER BASIN PRINCIPLES for the Colorado Water Plan

1. Introduction. Local water districts, cities and towns, individual water users, and area water conservation and conservancy districts are the entities and individuals that own, use and develop water rights for municipal, domestic, agricultural, industrial, and recreation uses on the west slope of Colorado. As evidenced by the recent historic Colorado River Cooperative Agreement between Denver Water and the west slope of Colorado, these are the parties that know their needs, the area and regional water supplies, and what cooperative water plans and agreements are possible. It is essential that any state based water plan not attempt to supplant the role of west slope water users or seek to supersede constitutionally based Colorado water law, 1041 and local land use permit authority, water supply plans or pre-existing agreements between water rights owners. To assure Colorado's water future, the State should: assist with funding of water supply projects needed to meet locally-determined needs; support a healthy west slope (and state-wide) economy by protecting watersheds, stream flows and water quality; and abide by local land use and water plans.

2. Future Transmountain Diversions. Any future transmountain diversions from the Eagle River basin must comply with the express terms of the Eagle River Memorandum of Understanding with Colorado Springs and Aurora, the settlement with Denver Water in Case Nos. 02CW125 and 07CW126, the Colorado River Cooperative Agreement with Denver Water, Eagle County 1041 permit authority and regulations, and the Colorado water right priority system under the State Constitution. Pursuant to the foregoing agreements, any future transmountain diversion projects must result in net benefits to the Eagle River Basin.

3. Compact Calls. Any Colorado River compact call must comply with and be administered according to Colorado's constitutionally based priority system and the existing transmountain diversions of the Northern Colorado Water Conservancy District, Denver, Colorado Springs and Englewood must be subject to and comply with the terms of Senate Document 80, the Blue River Decree, and the decree for the Windy Gap Project.

4. Water Leadership. Leadership on any regional water plans that affect the Eagle River basin should come from the local water providers, the Eagle Park Reservoir Company, which owns and controls the largest storage facilities and water rights used in the Eagle River basin, and water rights owners who depend on water to support the recreational economy, such as the Vail and Beaver Creek ski areas. Any state or regional water plan must be acceptable to these entities. Additionally, Eagle County and local municipalities (the towns of Vail, Avon, Minturn, Red Cliff, Eagle, and Gypsum) are important stakeholders in water issues, and as such are represented on the Colorado Basin Roundtable, as water is integral to land use issues, the local environment, and the economy of these communities.

5. Reallocation of Water Supplies. Any effort to reallocate the area municipal, irrigation, snowmaking, and recreation water supplies and water rights to new uses and new regions must be summarily rejected.

6. New Supply Projects. Any new water supply projects must first serve the local and regional water supply needs, and fully protect the region's economic activities, area water quality, and stream health.

EAGLEVAIL BOARD OF GOVERNORS
RESOLUTION ENDORSING THE WEST SLOPE PRINCIPLES AND
ADOPTING THE EAGLE RIVER BASIN PRINCIPLES FOR THE COLORADO WATER PLAN

WHEREAS, the EagleVail Metropolitan District ("District") is a quasi-municipal corporation and political subdivision of the State of Colorado and a duly organized and existing special district pursuant to the provisions of Article 1, Title 32, C.R.S. ("Special District Act"); and

WHEREAS, the EagleVail Property Owners Association, Inc. ("Association") is a duly organized Colorado non-profit corporation operating pursuant to Title 7, C.R.S. and the Colorado Common Interest Ownership Act ("CCIOA"); and

WHEREAS, the District and Association have formed a third board of directors to serve as an executive committee, the EagleVail Board of Governors to manage the community of EagleVail ("EagleVail"); and

WHEREAS, EagleVail receives water services from the Upper Eagle Regional Water Authority ("Authority"), which is authorized and empowered to supply water for domestic and other public and private purposes; and

WHEREAS, EagleVail benefits from Authority planning that has provided efficient, effective, and reliable water to the Authority's service area, ranging from EagleVail through Cordillera, through development of the public water system, including water rights, storage and treatment facilities; and

WHEREAS, the Governor of the State of Colorado issued executive order D 2013-005, directing "the Colorado Water Conservation Board to commence work on the Colorado Water Plan" in May 2013; and

WHEREAS, according to the executive order, "Colorado's water policy must reflect its water values," including a "productive economy," efficient water infrastructure "promoting smart land use," and a "strong environment that includes healthy watersheds, rivers and streams, and wildlife;" and

WHEREAS, the west slope headwaters are the source of much of the water supply for the Front Range as well as an epicenter of Colorado's recreation economy and wildlife resources; and

WHEREAS, local governments, water districts, watershed groups, basin roundtables, and other west slope water leaders have a deep understanding of the relationship between water resource development and the healthy watersheds, rivers and streams, and wildlife; and

WHEREAS, west slope organizations have been engaged in land use and water planning both locally and with Front Range water interests for many years and desire that this experience inform the Colorado Water Plan process; and

WHEREAS, Eagle River basin water providers have led cross-basin negotiations that have protected local rivers and streams, thereby providing for municipal water supply, recreational uses, environmental flows, and healthy watersheds; and

WHEREAS, Eagle River basin water providers developed principles to assure the certainty of existing and planned future water supply; and

WHEREAS, the District and Authority support the Northwest Colorado Council of Governments' Water Quality/Quantity Committee, which developed the *West Slope Principles* in collaboration with members of the west slope Basin Roundtables and the communities they represent; and

WHEREAS, the EagleVail Board of Governors supports these principles and believes that the Governor and the Colorado Water Conservation Board should adhere to these principles in preparing the Colorado

Water Plan.

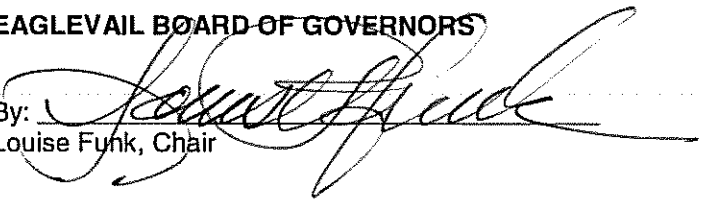
NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF GOVERNORS OF THE COMMUNITY OF EAGLEVAIL, THAT:

Section 1. The Board hereby endorses the West Slope Principles and adopts the Eagle River Basin Principles for the Colorado Water Plan in the same form attached hereto as Exhibit A and Exhibit B.

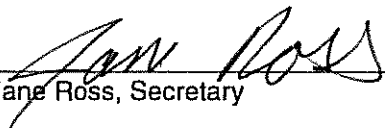
Section 2. This Resolution shall take effect immediately upon its passage.

INTRODUCED, PASSED, AND ADOPTED at a regular meeting of the Board of Governors of the community of EagleVail held this 16th day of January 2014.

EAGLEVAIL BOARD OF GOVERNORS

By: 
Louise Funk, Chair

ATTEST:

By: 
Jane Ross, Secretary

West Slope Principles for the Colorado Water Plan

1. **Solutions in the Colorado Water Plan (CWP) to supply water for growth and development in one part of the state should not over-ride land use plans and regulations adopted by local governments in the part of the state from which water will be taken.** ^{1,2,3,4,5,6,7}
 - 1.1 No new water supply projects or major changes in operation of existing projects should be planned unless agreed to by the county, conservancy district, and conservation district in the area from which water would be diverted. ^{1,3,5,6,7}
 - 1.2 The CWP must take into account pending projects, water supply plans, comprehensive land use plans, local regulatory authority, water quality plans (208 Plans), watershed plans, multi-party water agreements and related documents adopted by local governments in the area from which water would be taken. ^{1,2,3,4,5,6,7}
 - 1.3 Both the legislative basis and the legal impact of local government regulatory tools adopted to mitigate impacts of water projects should be recognized and protected. ^{3,6,7}
 - 1.4 The CWP should never elevate the agricultural interests in one part of the state over the agricultural interests in another part of the state to meet the demands of Front Range development. Agriculture is an important segment of the state's economy as a whole. Agriculture provides food independence, open space, wildlife habitat, cultural value, and economic activity wherever it is located.
 - 1.5 Any new supply projects taking water from one area of the state to another should include funding for "compensatory projects" to serve the area from which the water is taken. ⁷
2. **The CWP should protect and not threaten the economic, environmental, and social well-being of the west slope.** ^{1,2,3,5,6}
 - 2.1 The cornerstones of the west slope's economy are tourism, recreation, agriculture, and resource development, all of which are highly dependent upon water to be successful. The CWP should not facilitate additional diversions that could threaten the region's environmental, social and economic well-being. ^{1,2,3,6}
 - 2.2 To educate the public about existing conditions on the west slope, the CWP should identify the location and amounts of water that are already diverted every year from the west slope to the east slope, and discuss the historic and current consequences of those diversions. ^{1,2,3,6,9}

- 2.3 The state should not facilitate, politically, financially, or legally, any new water supply projects from the Colorado, Yampa/White or Gunnison River Basins to the Front Range without the consent of the county, conservancy district, and conservation district in the basin of origin, and unless impacts are avoided and mitigation is provided. ^{1,2,3,6,7}
- 2.4 New supply projects that involve storage on the west slope must make a significant amount of water available to west slope water uses. New supply projects that involve storage of west slope water in an east slope storage project must provide compensatory storage to protect existing and future west slope water uses, as well as the environmental and non-consumptive needs of the basin of origin. ⁷
- 2.5 The CWP must protect investments in public water and wastewater facilities by ensuring that costs to upgrade and operate these facilities do not increase because of Front Range water projects. ⁵
- 2.6 The CWP must afford recreational in-channel diversions and CWCB instream flows the same status as other water rights that are protected under Colorado law. ^{3,6} Other west slope non-consumptive water needs must be factored into the CWP.
- 2.7 Water quality protection efforts of the west slope must be respected and enhanced by the CWP. ^{4,5,6}
- 2.8 The historic use of west slope agricultural water rights provides a river flow regime that is relied upon by all west slope users and must be maintained. ⁸
3. **The CWP should identify a process and requirements for each basin to exhaust available water supply within its own basin before planning diversions from another area of the state.** ^{1,2,3,7}
 - 3.1 Transmountain diversion water should be re-used to extinction to the extent allowed by law, before any proposed new supply development focuses on further west slope water supply. ^{1,2,3,6,7}
 - 3.2 Re-allocation of existing supplies in areas that need more water should be evaluated (e.g. rotational fallowing, changing to new uses, deficit irrigation). ^{1,3,6,7}
 - 3.3 Front range infrastructure and water should be shared to meet future demands (e.g. WISE). Laws and regulations that improve such sharing should be considered.
 - 3.4 New Front Range in-basin projects should be pursued to fully utilize in-basin supplies (e.g. Chatfield Reallocation, SDS, Arkansas Conduit, indirect and direct

re-use, gravel pit storage projects), including maintaining and enhancing existing storage facilities. The CWP should encourage and facilitate dredging to keep capacity, and streamline efforts to enlarge storage by dredging when practical.^{3,6}

- 3.5 The CWP should promote mechanisms to reduce demand through agricultural or municipal efficiency/conservation, land use and smart growth policies that further water conservation, and controls on water usage.^{3,6,7} Under no circumstances should agriculture be penalized for switching to more efficient water use methods.
 - 3.6 The CWP should reject proposals for water to supply new development when and where there are insufficient water resources available to support them under all hydrologic conditions without creating risks for other water users.^{1,3,6,7} Any new supply projects that rely on diversions from the west slope should be developed within the existing water rights system and not afforded special status.
 - 3.7 Front Range areas with present and future projected water shortages should pursue collectively financing projects that provide water resources to their areas.
4. **The CWP should outline mechanisms to mitigate the risk of potential Compact curtailment of the Colorado River. For example, the CWP should adopt low-risk legal and hydrologic assumptions related to Colorado's obligations under the Colorado River Compact and the Upper Colorado River Basin Compact in order to minimize the risk of curtailment on existing uses of Colorado River basin water.⁷**
 - 4.1 There is disagreement on how much, if any, additional consumptive use water is available from the Colorado River. Because of justifiable reliance and financial investment, existing uses and users should be protected and not put at risk by new development.
 - 4.2 The facilities and methodologies for protecting existing users from a compact curtailment, as well as for mitigation, must be in place prior to any new project or methodology that would take additional water out of the Colorado River Basin.
 - 4.3 The CWP must disclose that fully developing the state's Colorado River compact entitlement will increase the chance of a compact curtailment that would impact existing users.
 - 4.4 New projects in the Colorado River Basin should be supported and approved, if at all, only on conditions that will allow diversion and storage at times and in amounts that will not increase the risk of compact curtailment of other post-Compact water rights.

5. **The State should not assume a role as a proponent of a water project until the State regulatory process has been completed and the project has been agreed to by the impacted counties, conservancy districts and conservation districts in the area from which water would be diverted.**

The above principles are taken from many sources of earlier water principles around the state. The numbers in the above principles indicate in which documents a similar principle may be found, including:

- ¹ Colorado 58 *Water Principles*. In approximately 1999, 58 Colorado Counties, signed onto these Water Principles, which were passed as a House Resolution as well.
- ² Colorado River Water Conservation District Policy Statement: Existing Transmountain Diversions, Adopted July 15, 2008, readopted July 2011. http://www.crwcd.org/media/uploads/20110719-policies_TMD_Existing_Projects.pdf
- ³ Colorado River Water Conservation District Policy Statement: Transmountain Diversions, adopted March 16, 2000, revised and readopted July 2011. http://www.crwcd.org/media/uploads/20110719-policies_TMDs.pdf
- ⁴ Colorado River Water Conservation District Policy Statement: Water Quality, adopted July 2010. http://www.crwcd.org/media/uploads/20100720_policy_water_quality.pdf
- ⁵ NWCCOG Water Quality/ Quantity Committee Policies, readopted November 2012.
- ⁶ 2012 NWCCOG Regional Water Quality Management Plan (208 Plan). http://nwccog.org/docs/wss/rwqmp_2012/Vol%201_Policy%20Plan%202012%20208%20Plan.pdf
- ⁷ Colorado Basin Roundtable Vision Statement (Nov. 2010).
- ⁸ Orchard Mesa Check Case, 91CW247, Water Division No. 5.
- ⁹ i.e. Senate Document No. 80, Windy Gap Project, Windy Gap Firming Project, Colorado River Cooperative Agreement

EAGLE RIVER BASIN PRINCIPLES for the Colorado Water Plan

1. Introduction. Local water districts, cities and towns, individual water users, and area water conservation and conservancy districts are the entities and individuals that own, use and develop water rights for municipal, domestic, agricultural, industrial, and recreation uses on the west slope of Colorado. As evidenced by the recent historic Colorado River Cooperative Agreement between Denver Water and the west slope of Colorado, these are the parties that know their needs, the area and regional water supplies, and what cooperative water plans and agreements are possible. It is essential that any state based water plan not attempt to supplant the role of west slope water users or seek to supersede constitutionally based Colorado water law, 1041 and local land use permit authority, water supply plans or pre-existing agreements between water rights owners. To assure Colorado's water future, the State should: assist with funding of water supply projects needed to meet locally-determined needs; support a healthy west slope (and state-wide) economy by protecting watersheds, stream flows and water quality; and abide by local land use and water plans.

2. Future Transmountain Diversions. Any future transmountain diversions from the Eagle River basin must comply with the express terms of the Eagle River Memorandum of Understanding with Colorado Springs and Aurora, the settlement with Denver Water in Case Nos. 02CW125 and 07CW126, the Colorado River Cooperative Agreement with Denver Water, Eagle County 1041 permit authority and regulations, and the Colorado water right priority system under the State Constitution. Pursuant to the foregoing agreements, any future transmountain diversion projects must result in net benefits to the Eagle River Basin.

3. Compact Calls. Any Colorado River compact call must comply with and be administered according to Colorado's constitutionally based priority system and the existing transmountain diversions of the Northern Colorado Water Conservancy District, Denver, Colorado Springs and Englewood must be subject to and comply with the terms of Senate Document 80, the Blue River Decree, and the decree for the Windy Gap Project.

4. Water Leadership. Leadership on any regional water plans that affect the Eagle River basin should come from the local water providers, the Eagle Park Reservoir Company, which owns and controls the largest storage facilities and water rights used in the Eagle River basin, and water rights owners who depend on water to support the recreational economy, such as the Vail and Beaver Creek ski areas. Any state or regional water plan must be acceptable to these entities. Additionally, Eagle County and local municipalities (the towns of Vail, Avon, Minturn, Red Cliff, Eagle, and Gypsum) are important stakeholders in water issues, and as such are represented on the Colorado Basin Roundtable, as water is integral to land use issues, the local environment, and the economy of these communities.

5. Reallocation of Water Supplies. Any effort to reallocate the area municipal, irrigation, snowmaking, and recreation water supplies and water rights to new uses and new regions must be summarily rejected.

6. New Supply Projects. Any new water supply projects must first serve the local and regional water supply needs, and fully protect the region's economic activities, area water quality, and stream health.

EDWARDS METROPOLITAN DISTRICT
RESOLUTION ENDORSING THE WEST SLOPE PRINCIPLES AND
ADOPTING THE EAGLE RIVER BASIN PRINCIPLES FOR THE COLORADO WATER PLAN

WHEREAS, the Edwards Metropolitan District ("District") is a quasi-municipal corporation and political subdivision of the State of Colorado and a duly organized and existing special district pursuant to Title 32, Colorado Revised Statutes; and

WHEREAS, the District receives water services from the Upper Eagle Regional Water Authority ("Authority"), which is authorized and empowered to supply water for domestic and other public and private purposes; and

WHEREAS, the District benefits from Authority planning that has provided efficient, effective, and reliable water to the Authority's service area, ranging from EagleVail through Cordillera, through development of the public water system, including water rights, storage and treatment facilities; and

WHEREAS, the Governor of the State of Colorado issued executive order D 2013-005, directing "the Colorado Water Conservation Board to commence work on the Colorado Water Plan" in May 2013; and

WHEREAS, according to the executive order, "Colorado's water policy must reflect its water values," including a "productive economy," efficient water infrastructure "promoting smart land use," and a "strong environment that includes healthy watersheds, rivers and streams, and wildlife;" and

WHEREAS, the west slope headwaters are the source of much of the water supply for the Front Range as well as an epicenter of Colorado's recreation economy and wildlife resources; and

WHEREAS, local governments, water districts, watershed groups, basin roundtables, and other west slope water leaders have a deep understanding of the relationship between water resource development and the healthy watersheds, rivers and streams, and wildlife; and

WHEREAS, west slope organizations have been engaged in land use and water planning both locally and with Front Range water interests for many years and desire that this experience inform the Colorado Water Plan process; and

WHEREAS, Eagle River basin water providers have led cross-basin negotiations that have protected local rivers and streams, thereby providing for municipal water supply, recreational uses, environmental flows, and healthy watersheds; and

WHEREAS, Eagle River basin water providers developed principles to assure the certainty of existing and planned future water supply; and

WHEREAS, the District and Authority support the Northwest Colorado Council of Governments' Water Quality/Quantity Committee, which developed the *West Slope Principles* in collaboration with members of the west slope Basin Roundtables and the communities they represent; and

WHEREAS, the Edwards Metropolitan District Board of Directors supports these principles and believes that the Governor and the Colorado Water Conservation Board should adhere to these principles in preparing the Colorado Water Plan.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE EDWARDS METROPOLITAN DISTRICT, THAT:

Section 1. The Board hereby endorses the West Slope Principles and adopts the Eagle River Basin Principles for the Colorado Water Plan in the same form attached hereto as Exhibit A and Exhibit B.

Section 2. This Resolution shall take effect immediately upon its passage.

INTRODUCED, PASSED, AND ADOPTED at a regular meeting of the Board of Directors of the Edwards Metropolitan District held this 19th day of December 2013.

EDWARDS METROPOLITAN DISTRICT

By: _____

Todd Williams, Chair

ATTEST:

By: _____

Becky Bultemeier, Secretary

West Slope Principles for the Colorado Water Plan

1. **Solutions in the Colorado Water Plan (CWP) to supply water for growth and development in one part of the state should not over-ride land use plans and regulations adopted by local governments in the part of the state from which water will be taken.** ^{1,2,3,4,5,6,7}
 - 1.1 No new water supply projects or major changes in operation of existing projects should be planned unless agreed to by the county, conservancy district, and conservation district in the area from which water would be diverted. ^{1,3,5,6,7}
 - 1.2 The CWP must take into account pending projects, water supply plans, comprehensive land use plans, local regulatory authority, water quality plans (208 Plans), watershed plans, multi-party water agreements and related documents adopted by local governments in the area from which water would be taken. ^{1,2,3,4,5,6,7}
 - 1.3 Both the legislative basis and the legal impact of local government regulatory tools adopted to mitigate impacts of water projects should be recognized and protected. ^{3,6,7}
 - 1.4 The CWP should never elevate the agricultural interests in one part of the state over the agricultural interests in another part of the state to meet the demands of Front Range development. Agriculture is an important segment of the state's economy as a whole. Agriculture provides food independence, open space, wildlife habitat, cultural value, and economic activity wherever it is located.
 - 1.5 Any new supply projects taking water from one area of the state to another should include funding for "compensatory projects" to serve the area from which the water is taken. ⁷
2. **The CWP should protect and not threaten the economic, environmental, and social well-being of the west slope.** ^{1,2,3,5,6}
 - 2.1 The cornerstones of the west slope's economy are tourism, recreation, agriculture, and resource development, all of which are highly dependent upon water to be successful. The CWP should not facilitate additional diversions that could threaten the region's environmental, social and economic well-being. ^{1,2,3,6}
 - 2.2 To educate the public about existing conditions on the west slope, the CWP should identify the location and amounts of water that are already diverted every year from the west slope to the east slope, and discuss the historic and current consequences of those diversions. ^{1,2,3,6,9}

- 2.3 The state should not facilitate, politically, financially, or legally, any new water supply projects from the Colorado, Yampa/White or Gunnison River Basins to the Front Range without the consent of the county, conservancy district, and conservation district in the basin of origin, and unless impacts are avoided and mitigation is provided. ^{1,2,3,6,7}
- 2.4 New supply projects that involve storage on the west slope must make a significant amount of water available to west slope water uses. New supply projects that involve storage of west slope water in an east slope storage project must provide compensatory storage to protect existing and future west slope water uses, as well as the environmental and non-consumptive needs of the basin of origin. ⁷
- 2.5 The CWP must protect investments in public water and wastewater facilities by ensuring that costs to upgrade and operate these facilities do not increase because of Front Range water projects. ⁵
- 2.6 The CWP must afford recreational in-channel diversions and CWCB instream flows the same status as other water rights that are protected under Colorado law. ^{3,6} Other west slope non-consumptive water needs must be factored into the CWP.
- 2.7 Water quality protection efforts of the west slope must be respected and enhanced by the CWP. ^{4,5,6}
- 2.8 The historic use of west slope agricultural water rights provides a river flow regime that is relied upon by all west slope users and must be maintained. ⁸
3. **The CWP should identify a process and requirements for each basin to exhaust available water supply within its own basin before planning diversions from another area of the state.** ^{1,2,3,7}
 - 3.1 Transmountain diversion water should be re-used to extinction to the extent allowed by law, before any proposed new supply development focuses on further west slope water supply. ^{1,2,3,6,7}
 - 3.2 Re-allocation of existing supplies in areas that need more water should be evaluated (e.g. rotational fallowing, changing to new uses, deficit irrigation). ^{1,3,6,7}
 - 3.3 Front range infrastructure and water should be shared to meet future demands (e.g. WISE). Laws and regulations that improve such sharing should be considered.
 - 3.4 New Front Range in-basin projects should be pursued to fully utilize in-basin supplies (e.g. Chatfield Reallocation, SDS, Arkansas Conduit, indirect and direct

re-use, gravel pit storage projects), including maintaining and enhancing existing storage facilities. The CWP should encourage and facilitate dredging to keep capacity, and streamline efforts to enlarge storage by dredging when practical.^{3,6}

- 3.5 The CWP should promote mechanisms to reduce demand through agricultural or municipal efficiency/conservation, land use and smart growth policies that further water conservation, and controls on water usage.^{3,6,7} Under no circumstances should agriculture be penalized for switching to more efficient water use methods.
 - 3.6 The CWP should reject proposals for water to supply new development when and where there are insufficient water resources available to support them under all hydrologic conditions without creating risks for other water users.^{1,3,6,7} Any new supply projects that rely on diversions from the west slope should be developed within the existing water rights system and not afforded special status.
 - 3.7 Front Range areas with present and future projected water shortages should pursue collectively financing projects that provide water resources to their areas.
4. **The CWP should outline mechanisms to mitigate the risk of potential Compact curtailment of the Colorado River. For example, the CWP should adopt low-risk legal and hydrologic assumptions related to Colorado's obligations under the Colorado River Compact and the Upper Colorado River Basin Compact in order to minimize the risk of curtailment on existing uses of Colorado River basin water.⁷**
- 4.1 There is disagreement on how much, if any, additional consumptive use water is available from the Colorado River. Because of justifiable reliance and financial investment, existing uses and users should be protected and not put at risk by new development.
 - 4.2 The facilities and methodologies for protecting existing users from a compact curtailment, as well as for mitigation, must be in place prior to any new project or methodology that would take additional water out of the Colorado River Basin.
 - 4.3 The CWP must disclose that fully developing the state's Colorado River compact entitlement will increase the chance of a compact curtailment that would impact existing users.
 - 4.4 New projects in the Colorado River Basin should be supported and approved, if at all, only on conditions that will allow diversion and storage at times and in amounts that will not increase the risk of compact curtailment of other post-Compact water rights.

5. **The State should not assume a role as a proponent of a water project until the State regulatory process has been completed and the project has been agreed to by the impacted counties, conservancy districts and conservation districts in the area from which water would be diverted.**

The above principles are taken from many sources of earlier water principles around the state. The numbers in the above principles indicate in which documents a similar principle may be found, including:

- ¹ Colorado 58 *Water Principles*. In approximately 1999, 58 Colorado Counties, signed onto these Water Principles, which were passed as a House Resolution as well.
- ² Colorado River Water Conservation District Policy Statement: Existing Transmountain Diversions, Adopted July 15, 2008, readopted July 2011. http://www.crwcd.org/media/uploads/20110719-policies_TMD_Existing_Projects.pdf
- ³ Colorado River Water Conservation District Policy Statement: Transmountain Diversions, adopted March 16, 2000, revised and readopted July 2011. http://www.crwcd.org/media/uploads/20110719-policies_TMDs.pdf
- ⁴ Colorado River Water Conservation District Policy Statement: Water Quality, adopted July 2010. http://www.crwcd.org/media/uploads/20100720_policy_water_quality.pdf
- ⁵ NWCCOG Water Quality/ Quantity Committee Policies, readopted November 2012.
- ⁶ 2012 NWCCOG Regional Water Quality Management Plan (208 Plan). http://nwccog.org/docs/wss/rwqmp_2012/Vol%201_Policy%20Plan%202012%20208%20Plan.pdf
- ⁷ Colorado Basin Roundtable Vision Statement (Nov. 2010).
- ⁸ Orchard Mesa Check Case, 91CW247, Water Division No. 5.
- ⁹ i.e. Senate Document No. 80, Windy Gap Project, Windy Gap Firing Project, Colorado River Cooperative Agreement

EAGLE RIVER BASIN PRINCIPLES for the Colorado Water Plan

1. Introduction. Local water districts, cities and towns, individual water users, and area water conservation and conservancy districts are the entities and individuals that own, use and develop water rights for municipal, domestic, agricultural, industrial, and recreation uses on the west slope of Colorado. As evidenced by the recent historic Colorado River Cooperative Agreement between Denver Water and the west slope of Colorado, these are the parties that know their needs, the area and regional water supplies, and what cooperative water plans and agreements are possible. It is essential that any state based water plan not attempt to supplant the role of west slope water users or seek to supersede constitutionally based Colorado water law, 1041 and local land use permit authority, water supply plans or pre-existing agreements between water rights owners. To assure Colorado's water future, the State should: assist with funding of water supply projects needed to meet locally-determined needs; support a healthy west slope (and state-wide) economy by protecting watersheds, stream flows and water quality; and abide by local land use and water plans.

2. Future Transmountain Diversions. Any future transmountain diversions from the Eagle River basin must comply with the express terms of the Eagle River Memorandum of Understanding with Colorado Springs and Aurora, the settlement with Denver Water in Case Nos. 02CW125 and 07CW126, the Colorado River Cooperative Agreement with Denver Water, Eagle County 1041 permit authority and regulations, and the Colorado water right priority system under the State Constitution. Pursuant to the foregoing agreements, any future transmountain diversion projects must result in net benefits to the Eagle River Basin.

3. Compact Calls. Any Colorado River compact call must comply with and be administered according to Colorado's constitutionally based priority system and the existing transmountain diversions of the Northern Colorado Water Conservancy District, Denver, Colorado Springs and Englewood must be subject to and comply with the terms of Senate Document 80, the Blue River Decree, and the decree for the Windy Gap Project.

4. Water Leadership. Leadership on any regional water plans that affect the Eagle River basin should come from the local water providers, the Eagle Park Reservoir Company, which owns and controls the largest storage facilities and water rights used in the Eagle River basin, and water rights owners who depend on water to support the recreational economy, such as the Vail and Beaver Creek ski areas. Any state or regional water plan must be acceptable to these entities. Additionally, Eagle County and local municipalities (the towns of Vail, Avon, Minturn, Red Cliff, Eagle, and Gypsum) are important stakeholders in water issues, and as such are represented on the Colorado Basin Roundtable, as water is integral to land use issues, the local environment, and the economy of these communities.

5. Reallocation of Water Supplies. Any effort to reallocate the area municipal, irrigation, snowmaking, and recreation water supplies and water rights to new uses and new regions must be summarily rejected.

6. New Supply Projects. Any new water supply projects must first serve the local and regional water supply needs, and fully protect the region's economic activities, area water quality, and stream health.

Cover Sheet for Input Document, Item #3

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: March 5, 2014

Input provided by: Thaddeus Tecza, United North Metro Denver

Method of submission: Online General Input Webform at www.coloradowaterplan.com

Summary of Input: Webform comment as follows: "On Monday, March 3, I attended the Denver outreach meeting of the South Platte River Basin Implementation Plan. At that meeting I noted that the Colorado Department of Transportation currently is engaged in the I-70 East Project which will reconstruct and widen I-70 below grade from Dahlia Street to Brighton Boulevard. This will significantly impact the South Platte River in numerous ways including, (A) constructing a barrier that will divert the dominant groundwater drainage for 1.75 miles, (B) releasing large amounts of contaminated groundwater that will need to be treated prior to release into the river, and (3) creating an east-west impervious surface equivalent of a new river that will channel large amounts of contaminated water toward the river with each significant rainfall, rather than allowing normal absorption into the ground. I asked why CDOT is not being required to integrate their activities into the overall South Platte River Basin Implementation Plan. I believe that they should be required to do so rather than being allowed to independently develop their plan. "

Documents Submitted for Review: Comments in attached letter

Staff Response: CWCB staff will pass this comment on to the South Platte BRT and CDPHE. The Water Quality Division of the Colorado Department of Public Health and Environment (CDPHE) regulates water quality issues of this nature in the state. However, please note that the CWCB is working in close coordination with the Water Quality Control Division on Section 5.4 Water Quality, which will be released for public review at the May 2014 CWCB Board meeting. Finally, many decisions regarding roadway projects are managed at the local level, as opposed to the state having jurisdiction in these matters.

CDOT I-70 Draft Supplemental EIS

Water Management Issues That Need to be Addressed November 2013

The document is organized by: 1) ground-water information needed prior to construction, 2) ,water management during construction and 3) water management during maintenance, after interstate is open for traffic.

1)GROUND WATER INFORMATION NEEDED PRIOR TO CONSTRUCTION

- annual cycle of ground water levels on a monthly basis for 12 months to show whether ground-water levels fluctuate seasonally
- construction completion of monitoring wells to show where they are perforated and, thus, what aquifer they are monitoring; this aquifer should be related to the depth of the trench
- modeling to show the saturated thickness of the aquifer and whether it has enough saturated thickness to handle additional water (as diverted from the trench)
- information from additional monitor wells to show what subsurface material the additional ground water (as diverted from the trench) will go through from the trench to the river
- information on the houses, businesses and schools on the south side of the interstate that may be affected by the back up of ground-water
- Information on the flow rate and quantity of flow in the area of the trench; CDOT should provide ground-water maps showing this information
- Determine the potential for negative impacts (water backing up and possibly surfacing or saturating basements)as a result of changing ground–water flow paths and rates; this could be done by a network of monitoring wells in appropriate areas (which we can specify after we see a map of ground-water flow directions

2)WATER MANAGEMENT DURING CONSTRUCTION

Ground water management

Ground water will be encountered during the digging of the trench and, perhaps, at other times during construction since the ground-water table is relatively shallow in the area

- Information on how the trench be dewatered probably continually during construction

- Information on how ground water will be collected and directed to some type of holding container; analyzed for quality; and ultimately discharged to the S.Platte River
 - Water quality analysis should be done regularly to monitor any changes in ground water quality; **the EIS should specify what analyses will be done, i.e., not just metals but also hydrocarbons and chlorinated solvents; this information** is needed to determine treatment methods prior to discharge; water quality may change as Denver is underlain by various pollution plumes; at this time, it is not know which plumes and at what times would the excavation of the trench and dewatering of the shallow aquifer intersect which plumes
 - The EIS should provide data on the quality of the ground water collected, CDOT will need to build a treatment system and obtain a permit from CDPHE prior to discharge of water to the S.Platte River; this should NOT be considered a storm sewer permit under NPDES since this is not storm water runoff

Surface Water Management During Construction

- CDOT should provide a plan and obtain a permit for stormwater runoff during management
- CDOT should state that is will analyze stormwater for water quality, including metals (including asbestos), hydrocarbons, and chlorinated solvents
- If treatment is required, a holding basin and treatment location need to be specified

3)WATER MANAGEMENT DURING MAINTENANCE

Ground Water Management

As a result of the construction of the trench, ground–water flow paths will be changed in the north Denver area.

- CDOT should address how it will monitor the impact of the changes in flow direction
- CDOT should provide information on the flow rate and quantity of flow in the area of the trench
- CDOT should provide ground-water maps showing this information
- CDOT should provide a method to determine the potential for negative impacts as a result of changing ground–water flow paths and rates; this could be done by a network of monitoring wells in appropriate areas
 - Negative impacts could include the surfacing of ground-water in unexpected areas, such as in basements or low-lying open areas

- CDOT should address how negative impacts, such as the surfacing of ground-water in unexpected areas, will be fixed by CDOT

Surface Water

- CDOT must address management of surface water runoff i.e., storm water runoff by a plan and a permit from CDPHE
- Because the stormwater runoff is from a highway, it is likely to be contaminated; CDOT should address collection of stormwater, analysis of this water (including metals (including asbestos), hydrocarbons, and chlorinated solvents), construction of a holding pond and treatment facility
- CDOT should address how it will assure maintenance of the trench so that the stormwater drain does not get plugged, causing back up of water in the trench

Cover Sheet for Input Document, #5

The document listed 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: March 8, 2014 through March 15, 2014

Input provided by: 24 emails generated from individuals who submitted a form letter online

Method of submission: Email to cowaterplan@state.co.us

Summary of Input: Form letter text base: "As an river enthusiast and active recreational-user, I'm concerned that the Colorado Water Plan is not taking sufficient steps to protect and restore flowing rivers and the tourism and recreation opportunities they provide. I'm writing in support of a Water Plan that is consistent with Governor Hickenlooper's focus on "a strong environment that includes healthy watersheds, rivers and streams, and wildlife." Please advance a Water Plan that keeps Colorado's rivers healthy and flowing, increases water recycling and conservation programs, protects our farms and ranches by making agricultural water use more efficient, and find ways to improve flows for river health and our recreational economies."

Documents Submitted for Review: A separate attachment was created for the Board packet including 24 emails

Staff Response: 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. The values driving Colorado's Water Plan address all of the important strategies mentioned in this group of form letters. Those values are 1) vibrant and sustainable cities, 2) viable and productive agriculture, 3) a robust recreation and tourism industry, and 4) a thriving environment that includes healthy watersheds, rivers, streams, and wildlife. 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.

Cover Sheet for Input Document, Item #8

The document listed 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: March 11, 2014

Input provided by: Combined comments from Melinda Kassen, WaterJamin Legal & Policy Consulting; Theresa Conley, Conservation Colorado; Bart Miller, Western Resource Advocates

Method of submission: Email to Mike King, James Eklund, and Rebecca Mitchell, forwarded to cowaterplan@state.co.us

Summary of Input: Combined comments regarding Chapters 1, 5.9, 5.10, and the Annotated Framework.

Documents Submitted for Review: Comments on draft attached

Staff Response: With regard to modifications to the Annotated Framework, the suggestion is that for 5.9 single purpose environmental or recreational projects should be incorporated. The updated May version of the Annotated Framework includes this change. An additional comment suggested that the description for Section 1.1 of the Annotated Framework should indicate that as we meet the gap, we should be "minimizing the permanent buy and dry of irrigated agriculture and impacts to Colorado's Rivers". The updated May version of the Annotated Framework includes this change. The comments also suggest that some of the wording describing Section 5.10 is confusing and staff has worked to clarify this in the Annotated Framework. The CWCB will review and incorporate the comments as appropriate into the related chapters and sections of Colorado's Water Plan. Since all of the comments are on chapters and sections previously released to the CWCB Board, the final draft versions with all public comments incorporated will be released in October, 2014.

February 5, 2014

James Eklund, Director, Colorado Water Conservation Board
Mike King, Director, Colorado Department of Natural Resources
1313 Sherman St.
Denver, CO 80203

RE: Colorado's Water Plan

Dear Directors King and Eklund,

Thank you for providing us with this opportunity to provide comments on Colorado's Water Plan (CWP). We believe that the CWP creates an opportunity—for stakeholders of all kinds—to set out important strategies for Colorado's water future.

I. Big Picture

At a broad level, based on the recently released text of Chapters 1, 5.1 and 5.2, as well as the most recent updated version of the Annotated Framework (dated 1/17/14 and shared for the January CWCB meeting), we would note the following concerns, in each case along with a suggested fix:

- Chapter 1 frames the CWP as necessary to address a monolithic 500,000 AF gap. (p. 1, A). To be useful for planning, the “gap” needs to be more specifically refined (both as to where and when) so that projects and processes can be right-sized to meet real demands.
- Chapter 1's description of why there are non-consumptive needs (p. 1, B), as well as Section 5.5, fails to state the obvious: the reason for Colorado's wide-spread non-consumptive gaps is that there is not enough water left in many of our rivers, and the State has not historically allocated meaningful funding to address the problems. The CWP should acknowledge that low flows and hydrologic modifications (e.g., dams and diversions) have resulted in a loss of ecological health.
- Chapter 1.2's description of players, statutes, and authorities is incomplete and jumps around. We have made some suggestions to Becky Mitchell for her staff's consideration.
- Chapter 1.3's description of Colorado water law nowhere mentions “use it or lose it.” The section on Colorado water law should include at least a paragraph on this bedrock principle, because it is one of the barriers to implementing creative ways to share and conserve water.
- Chapter 5.1, on p. 7 describes the no/low action plan but fails to note that none of the actions is mandatory. Without the legislature (or an agency through regulations) turning these actions into mandates, they cannot be described as ‘baseline’ actions, because they may not happen.
- Chapter 5.2 (Natural Disaster Management) includes, on p. 3, a description of Colorado River water variability – and projections that there will be less water available in the future. This important point is buried in a part of the CWP that is completely disconnected from the parts of the Plan that talk about water supply and potential new projects. Any discussion of the latter must occur within the context of the possibility that there may not be any more water to develop and certainly less not in the quantities once imagined. At the very least, every time the CWP talks about new water development projects, there should be a cross-reference to the

risks described here, or the addition of a phrase, “subject to the risks of a lack of water availability as described in section 5.2.”

- In the Framework, section 5.9, the only Environmental & Recreational (E&R) projects mentioned are “multi-purpose.” Securing a healthy environment and recreation economy for Colorado’s future will require both addressing problems created by some historical water development, and protecting rivers and streams that currently support important E&R uses. It will not be possible to accomplish both of these goals relying solely on multi-purpose projects. There will be a need for E&R-specific projects as well.
- Relatedly, the final bullet of the draft Framework, section 1.1, would better reflect the values articulated in the Executive Order if it noted that as we meet the gap, we should be “minimizing the permanent buy-and-dry of irrigated agriculture and impacts to Colorado’s rivers.”
- In section 5.10 of the Framework, the bullet about permit streamlining is confusing. The opening, bolded sentence suggests that streamlining would be limited to IPPs that meet the values of the CWP, but the rest of the paragraph is not so limited. It should be; the simplest fix would be to remove the word “especially.” In addition, this section will need to include specific criteria to measure whether an IPP is consistent with state values.

II. Draft Chapter 1

The text of draft Chapter 1 listed a number of challenges that Colorado faces. We would suggest that section be edited as follows:

- A. The gap between ~~our~~ Front Range municipal water supply and water demand is real and looming. ~~In 2010, the~~ Statewide Water Supply Initiative forecasts that this gap could exceed 500,000 acre feet by 2050, in a worst case scenario of high population growth coupled with both minimal conservation efforts and a low success rate for water projects currently in the planning stages. The gap would be scattered across communities of the Front Range and affect different cities differently (or not at all). leaving a Under this scenario, as many as 2.5 million people new residents would be without sufficient water supplies absent taking more water out of agriculture. Moreover, our largest regional gap is set to occur in the ~~The South Platte Basin, our most populous as well as our largest agriculture-producing basin,~~ would be hit hardest (CWCB 2010).
- B. Environmental ~~and recreational~~ needs continue to gain importance for Coloradans and river recreation plays an ever-increasing role in Colorado’s economy. ~~and~~ Some Colorado rivers no longer support healthy river and riparian ecosystems because too much water is diverted or dams have changed the amount and timing of flows. As a result, yet, Colorado has a growing list of imperiled species and habitats. ~~and~~ Colorado’s increasing population will put more pressure on both the environment and the ~~crowding~~ ats recreational areas.
- C. Coloradans find that the current rate at which irrigated agriculture is being permanently lost by the purchase and permanent transfer of agricultural water rights to municipalities ~~is~~ unacceptable. We have witnessed the economic and environmental impacts on rural communities when water is sold and removed from an agricultural area. For example, projected permanent loss of irrigated acreage in the South Platte Basin alone is currently estimated to be 35% of all the agricultural lands under production in that basin unless

viable alternatives are developed (CWCB 2010). Similarly, the Colorado Basin could lose 20% of its irrigated agricultural lands (CWCB 2010).

- D. Highly variable precipitation and natural disasters such as floods, droughts, and wildfires exacerbate Colorado's water challenges. Drought conditions alone threaten to hasten the impact of the water supply gap. Indeed, the past two decades have been Colorado's warmest on record, dating back to the 1890s (BOR 2013).
- E. Colorado has historically regulated its water quantity and quality ~~have historically been addressed~~ separately, even although each healthy rivers need both clean and flowing water and water supply projects affect water quality heavily impacts the other.
- F. Permitting a water project takes substantial time at considerable cost. Even upon reaching the end of over a decade of procedure, a water project may still fail to adequately address the concerns of stakeholders. This process must become more agile and effective if we are to sufficiently respond to Colorado's water challenges. ~~Furthermore, the current permitting process by disen~~couragesing cooperation and innovation among stakeholders.
- G. As a headwater state with nine interstate compacts and two equitable apportionment decrees, Colorado has agreed to provide's water ~~is coveted by to~~ downstream states facing their own water supply imbalances.

III. Annotated Framework

We have attached some comments and proposed edits on the most recent version of the Annotated Framework.

Again, thank you for the opportunity to comment. Please contact any of us to discuss, or for more information.

Sincerely,

Theresa Conley, Conservation Colorado

Melinda Kassen, WaterJamin Consulting

Bart Miller, Western Resource Advocates

Attachment (Framework Comments)

Cc: Becky Mitchell

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.

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 [consumptive and non-consumptive](#) 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 [and adverse impacts to Colorado's rivers](#).

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 [and Location](#)

Objective: Illustrate Colorado's significant municipal, industrial, agricultural, environmental, and recreational water needs [by water provider or location](#)

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, [NC maps, new analyses of consumptive gaps by location/provider](#).

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 [additional](#) 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~~ [explains how scenario planning prepares Colorado, through that](#) the CWP ~~is aimed at to~~ [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 [asses](#) 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~~meld the state's consumptive and nonconsumptive needs and pull together all interested parties~~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 with any~~ legislation on that may be necessary to ~~move~~ move ~~those~~ activities forward. ~~and~~ The section will summarize the pros and cons of M&I conservation. It will ~~recognize~~ place the concern about demand hardening ~~as a concern into context~~ and will describe land use efforts that may assist in achieving heightened levels of conservation and reuse. The subsection will describe not only how to ensure implementation of actions related to set out in the No and Low Regrets Action Plan, but reasonably achievable actions that go beyond that 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 and other information developed through recent research and pilot activities. 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 compared to coal. 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~~ present incentive-based criteria, ~~which can be used to evaluate projects or methods on meeting state values, and to 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 [and restoring](#) Colorado's [rivers](#), 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 [secure a healthy environment and maintain Colorado's recreation economy](#) ~~maintain and, in some cases, enhance Colorado's environmental and recreational attributes, while maintaining consistent with~~ Colorado's water values, including the support of local economies. The section will describe how [it will be necessary to address problems created by historical water development](#), [implement projects or processes that protect or restore non-consumptive values and consider](#) 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 [or method](#) 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 [use the criteria from Section 5.8, supplemented as necessary, to determine whether projects and processes are consistent with Colorado's water values. It will also](#) 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 meet the criteria. Such an approach would](#)~~that efficiently~~ moves projects through the process [efficiently 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: Support future use of collaborative agreements by highlighting 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-explain how the criteria for a good new supply projects deserving of state support would also apply to any 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: To determine an overall cost for the plan, this section will add up the costs of each project or method in the Basin Implementation Plans necessary to meet a consumptive, non-consumptive or water quality gap, as well as estimates of those measures that will be necessary to achieve the Plan's goals that were not specifically included in any one Basin Implementation Plan. 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 public-private, 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, Section 5.8/5.10 criteria

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 [involving state water rights?] 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/or 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

Cover Sheet for Input Document, Item #10

The document listed 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: March 12, 2014

Input provided by: Anthony D'Aquila

Method of submission: Online General Input Webform at www.coloradowaterplan.com

Summary of Input: Comments regarding the Yampa/White/Green Basin Implementation Plan.

Documents Submitted for Review: Comments in attached letter

Staff Response: CWCB Staff will forward the attached letter to the Yampa/White Green Basin Roundtable for review.

Comments to the Yampa/White/Green River Basins Roundtable

I wish to provide the following initial comments to the Basin Implementation Planning process. You have a tremendous responsibility, as in my perspective, this undertaking is perhaps the most crucial public planning effort Colorado will face in this century.

To bring the key points of my comments up front, I propose the following three goals.

GOAL #1: No new inter-basin transfers or withdrawals from the Yampa/White/Green River Basin unless all reasonable alternatives have been fully implemented, to include water conservation programs, demand management programs, tiered water pricing policies, and reclaim/re-use programs.

GOAL #2: The Colorado Legislature to establish and approve mandatory daily water consumption goals for every public and otherwise regulated water utility in the state to strive to achieve. Recommended goal is 120 gallons per person per day or less.

GOAL #3: That Colorado's state and federal legislators will represent these goals in their negotiations with our neighboring states, the federal government, and the various regional and national planning and water regulatory commissions and agencies. State and federal legislators should object to additional out-of-state water supply commitments from Colorado unless receiving entities have likewise adopted more stringent water conservation and demand reduction measures.

GOAL #4: Water policy and planning in our Yampa-White-Green Basin and preferably state-wide must be integrated and holistic, considering the full spectrum of impacts and benefits to ecosystems, communities, and businesses.

Background

For too long water policy focused on the supply-side of the argument. Demand-side programs need to be the primary mechanism in resolving our water shortages and developing long term solutions.

Colorado is the leader in the Mountain West in many areas of innovation and technology. We must be the leaders in terms of water policy and water conservation as well.

All aspects of water conservation should be investigated and applied vigorously where appropriate. All water users must be party to water conservation efforts. This includes the agricultural sector, ranchers and farmers. Antiquated methods of irrigation, such as open-ditch transport of water or broadcast spraying, must be phased out and replaced with best management practices (BMP's) such as drip irrigation and moisture content-controlled application, that conserve water, utilize reclaimed water, and minimize loss and waste.

Goal 1 is meant to convey a serious message concerning short-sighted water policy planning. Increasing supply before implementing alternative solutions to reduce demand is a short-sighted policy decision. Moving water from a remote basin to provide increased supply in another region is not only wasteful of resources, it is contrary to good policy or planning. Aiming to increase supply without addressing demand management is treating the symptom and not the cause. The streamflow that exist in a system

such as the Yampa River is not a “surplus” resource, it is an intrinsic component of that particular ecosystem and plays a role in all receiving downstream communities. Withdrawal and removal from those systems will be detrimental and cause economic and ecological harm. It would be detrimental to our community, to our ranchers and farmers, and to our businesses dependent upon a robust summer and winter outdoor recreation industry. Further, any use of such a mechanism as a future withdrawal and inter-basin transport should be as a last recourse, after all alternative mechanisms available to the proposed receiving basin have been fully implemented, and then only if a requirement still exists.

Key to achieving reduced potable water demand is to implement policies and programs to encourage demand reduction. That is the purpose behind Goal 2. As reported within the SWSI, the per capita daily consumption throughout the whole of Colorado exceeds 200 gallons per day. That is far out of line with the water consumption standard many, many other communities across the nation have already achieved. For a state hovering on the brink of water supply disaster, it is critical to reduce our per capita demand. We can do better, and need to implement programs to drive that demand for water down to the 120 gallon per capita per day average. Tiered water pricing strategies and programs to encourage water savings, such as rebates for low flow toilets and water saving appliances, must be considered. Likewise, planners need to recognize we live in an arid environment. Xeriscaping and severe limitations on lawn irrigation must be implemented. Our metropolitan areas and urbanized areas serviced by advanced wastewater treatment systems must implement reclaimed and recycled water programs and begin to distribute reclaimed water to industrial users and for residential lawn irrigation. Those initiatives need to be supported by the state legislature and provided funding as necessary.

If we as Coloradans are successful in implementing these water conservation and demand management programs, then our state and federal legislators will have more standing to defend Goal 3, holding the line on more withdrawals from our state to other regions.

Implementing good water policy and programs need not require us to choose between agriculture and urban users, or to short change the environment. If we use integrated management and careful analysis of benefits and impacts, we can achieve balance. We do not need to choose between the lesser of two evils, if we plan better and seek mutually compatible and supportive results. For example, a surface water impoundment can exist as a system of ponds and wetlands beneficial to wildlife and outdoor recreation use.

Thank you for the opportunity to express these opinions.

Sincerely,

Anthony J. D’Aquila
2315 Ski Trail Lane, #21
Steamboat Springs, CO 80478
adaquila@tampabay.rr.com

mailing address:
P.O. Box 771239
Steamboat Springs, CO 80477-1239

Cover Sheet for Input Document, Item # 11

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: March 12, 2014

Input provided by: Polly Hayes, US Forest Service

Method of submission: Email to Rebecca Mitchell, forwarded to cowaterplan@state.co.us

Summary of Input: Comments from the US Forest Service on the draft sections of Colorado's Water Plan that were presented to the Board in January, 2014 (Chapter 1, Section 5.2).

Documents Submitted for Review: Comments in attached letter

Staff Response: The CWCB will review and incorporate the comments from the USFS as appropriate into the related chapters and sections of Colorado's Water Plan. Since all of the comments are on chapters and sections previously released to the CWCB Board, the final draft versions with all public comments incorporated will be released in October, 2014.

Google Groups

Fwd: Forest Service Comments on Draft Sections of CO Water Plan

Kate McIntire - DNR

Mar 12, 2014 1:56 PM

Posted in group: [dnr_cwcb_cowaterplan](#)

Sent from my iPhone

--

Kate McIntire
Outreach, Education and Public Engagement
Water Supply Planning Section
Colorado Water Conservation Board
Department of Natural Resources
1580 Logan St., Suite 200
Denver, CO 80203
Phone: (303) 866-3441 Ext. 3249
Cell: (720) 413-9960
kate.mcintire@state.co.us
www.cwcb.state.co.us

Begin forwarded message:

From: "Mitchell - DNR, Rebecca" <rebecca.mitchell@state.co.us>
Date: March 12, 2014 at 1:49:22 PM MDT
To: Kate McIntire - DNR <kate.mcintire@state.co.us>
Subject: Fwd: Forest Service Comments on Draft Sections of CO Water Plan

----- Forwarded message -----

From: Hays, Polly E -FS <pehays@fs.fed.us>
Date: Wed, Mar 12, 2014 at 12:54 PM
Subject: Forest Service Comments on Draft Sections of CO Water Plan
To: "rebecca.mitchell@state.co.us" <rebecca.mitchell@state.co.us>
Cc: "Hays, Polly E -FS" <pehays@fs.fed.us>

Hi Becky,

I looked at the draft sections of the CO Water Plan that were presented to the Board in Jan. I have a couple of corrections and comments from the Forest Service perspective. Staff I talked to said to send them directly to you, so here they are. Please let me know if you have any questions.

Thanks,

Polly Hays

Polly Hays

Water Program Manager

USFS Rocky Mountain Region

pehays@fs.fed.us

303-275-5096

740 Simms Street

Golden, CO 80401

Items 1 and 2: the suggested rewording is provided to provide clarity and correct inaccuracies in the draft language.

Item 3: the suggested rewording is provided to offer suggested changes in tone.

Item 1: **Page 14/15 of .pdf (3 of 11 and 4 of 11 in the Introduction and Background).**

Federal Entities:

Existing Language:

- U.S. Forest Service: The manager of forests of the United States. This agency is could be responsible for being the federal agency lead for NEPA and 404 permitting. In addition, the agency is responsible for Federal Energy Regulatory Commission (FERC) Licensing when a water project on federally owned forests produces hydropower.

Suggested Rewrite: The manager of National Forests of the United States. This agency could be the federal agency lead for NEPA for land use and occupancy permits on National Forest System lands. In addition, the agency participates in Federal Energy Regulatory Commission (FERC) licensing for hydropower projects on National Forest System lands.

Item 2: Page 21 of .pdf (10 of 11 in the in the Introduction and Background): Propose adding FLPMA to this list, and rewriting for clarity

Existing Language:

Federal programs also affect Colorado water users, most often through permitting processes. Clean Water Act, National Environmental Policy Act, Endangered Species Act, and Corps of Engineers permitting are just some examples of processes through which the federal government, or interested stakeholders, may become involved in a water management project or process.

Suggested Rewrite: Federal programs also affect Colorado water users, most often through permitting processes under the Clean Water Act, and Federal Land Policy and Management Act. National Environmental Policy Act and Endangered Species Act compliance as part of these permitting actions are just some examples of federal processes through which interested stakeholders may become involved in a water management project or process.

Item 3: Section 5.2 Natural Disaster Management (suggested changes in red)

(Page 32 of 64 of the .pdf, page 1 of 5 in section 5.2)

Natural disasters such as these do not just impact those in their path, but can have serious negative effects on our water systems and influence the amount of water available to meet the needs of Coloradans. For example, in 2002, the driest single year on record (Doesken 2003), Colorado suffered a number of high-severity wildfires, the largest of which was the Hayman Fire. Studies have shown that the fire resulted in elevated levels of nitrate and turbidity in streams located in the burn area, and levels remained elevated for five years after the event concluded (Rhoades et al. 2011). The CWCB has also collected field data and published reports on substantial hillside and stream erosion that takes place following medium and high intensity wildfires (CITE). Water providers also report increased levels of debris in reservoirs (Denver Water, 2010), which affect not only water quality but also the operations of the infrastructure. Denver Water, which was heavily affected by the Buffalo Creek and Hayman fires has spent \$30 million in wildfire related dredging and maintenance at their Strontia Springs reservoir (Denver Water, 2010). In 2012, another year of statewide drought, Colorado Springs Utilities and the City of Fort Collins also experienced impacts and incurred costs from separate wildfires that plagued in the watersheds that supply their municipal water. Further south in the Rio Grande basin, the 2013 West Fork Complex fire resulted in significant damage to the watershed.

(Page 34 of 64 of the .pdf, page 3 of 5 in section 5.2)

The 2013 flood stories of damaged water infrastructure and diversion structures; facilities that were severely disconnected from the stream or river channels; streams and rivers that significantly changed their course, watershed ~~plagued~~ affected by fire then flood and thousands of acres that would not have been able to be irrigated in 2014 if the state and others had not responded quickly with grant and loan resources, tell us two things.

This electronic message contains information generated by the USDA solely for the intended recipients. Any unauthorized interception of this message or the use or disclosure of the information it contains may violate the law and subject the violator to civil or criminal penalties. If you believe you have received this message in error, please notify the sender and delete the email immediately.

--

Rebecca Mitchell

Section Chief, Water Supply Planning

1580 Logan, Room 200

Denver, CO 80203

303-866-3441 x3217

Rebecca.Mitchell@state.co.us

www.cwcb.state.co.us

Cover Sheet for Input Document, Item #12

The document listed 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: March 14, 2014

Input provided by: Ben Beall, Yampa River System Legacy Partnership/America's Great Outdoors

Method of submission: Email to cowaterplan@state.co.us

Summary of Input: Text from email: "I have attached a letter that the Yampa River System Legacy Partnership/ America's Great Outdoors as requested by Jay Gallagher which the Legacy Partnership sent to Jacob Bornstein, Program Manager, CWCB. Last Wednesday, March 12, 2014 the Legacy Partnership submitted a similar letter concerning the CWP to the Yampa/White/Green Roundtable. Thanks for your consideration of the Legacy Partnership Principles in regards to the Yampa River for the CWP."

Documents Submitted for Review: Comments in attached letter

Staff Response: CWCB Staff will forward the attached letter to the Yampa/White Green Basin Roundtable for review.

YAMPA RIVER SYSTEM LEGACY PARTNERSHIP AMERICA'S GREAT OUTDOORS
Continuing the Legacy of the Yampa River

March 6, 2014

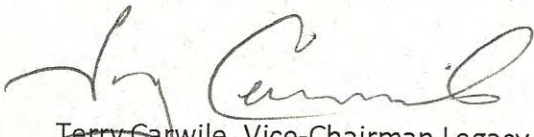
Jacob Bornstein, Program Manager
Colorado Water Conservation Board
1580 Logan St., Suite 200
Denver, CO 80203

Mr. Bornstein,

Please find attached comments from the Yampa River System Legacy Partnership to the Yampa/White/Green Basin Roundtable regarding the Basin Implementation Plan and the Colorado Water Plan.

Thank you.

For the Yampa River System Legacy Partnership – America's Great Outdoors

A handwritten signature in black ink, appearing to read 'Terry Carwile', is written over the printed name.

Terry Carwile, Vice-Chairman Legacy Partnership and Mayor, City of Craig on behalf of
Ben Beall, Chairman Legacy Partnership and Alternate for Routt County

cc: Yampa/White/Green Basin Roundtable
cc: Governor Hickenlooper

YAMPA RIVER SYSTEM LEGACY PARTNERSHIP AMERICA'S GREAT OUTDOORS

Continuing the Legacy of the Yampa River

Comments to the Yampa/White/Green Basin Roundtable Regarding Basin Implementation Plan and Colorado Water Plan

The Yampa River System Legacy Partnership – America's Great Outdoors (Legacy Partnership), formed in 1995, is one of the longest established, if not *the* longest, community-based, conservation-oriented organization composed of local, state and federal partners representing both the Upper and Lower Yampa River Basins. The Legacy Partnership operates under a Memorandum of Understanding, which was revised and expanded in 2011 to include goals of the America's Great Outdoors Initiative. The eighteen Partner representatives (along with alternates) from both Routt and Moffat Counties include; county and municipal elected officials; state and federal representatives; conservation, agricultural, business and recreation community members; youth and outdoor job and outdoor education proponents; and public lands and Yampa River advocates. These Partners bring to the Legacy Partnership diversity in experience from both Routt and Moffat Counties that serve the entire Yampa River Basin.

The revised 2011 Legacy Partnership Mission states: *"The Yampa River System Legacy Partnership is a voluntary collaborative, incentive-based project designed to protect and enhance the health of the Yampa River and its tributaries; adjacent agricultural lands and ecosystems; and the wildlife supported by these lands and waters. The YRSLP advances this mission through land conservation activities while providing recreational opportunities compatible with the natural environment of the Yampa Valley. This Legacy mission is closely aligned to and consistent with the recently announced America's Great Outdoors Initiative and is herein updated and revised to address AGO's expanded focus on connecting youth to the natural environment through jobs, environmental education and outdoor experiences along with AGO's focus on river restoration."*

The Yampa River and its surrounding lands are at the core of Legacy's mission and the rationale in submitting the following comments and principles to the Yampa/White/Green Roundtable, the Colorado Water Conservation Board (CWCB), and other interested stakeholders. The Basin Implementation Plan and the Colorado Water Plan (CWP) must take into consideration current and future water needs, both consumptive and non-consumptive, of the Yampa River Basin.

The Yampa River Legacy Partnership's two-decade long commitment has been focused on the importance of the Yampa River, its water and flows, in both the Upper and Lower Yampa River Basins. Legacy's successful program includes projects related to protection of the environment and important wildlife habitat; appropriate river recreation uses; and conservation of the valley's agricultural lands. Thousands of acres of agricultural lands have been conserved

through the Legacy program and over a hundred-thousand acres conserved in the region that complement Legacy's work.

A Non-Consumptive Needs Assessment was completed by the Yampa/White/Green Basin Roundtable. This Assessment identifies and maps key environmental and recreational attributes and activities that are directly tied to the Yampa River and its flows (CWCB 2011 and 2012). The report highlights the importance of protecting the flows of the Yampa River that are critical to sustaining the environmental health of the Yampa River along with those needed to support the river-related outdoor recreational economies of the region. The implications of the study lead to the understanding of the far-reaching significance that the Yampa River has to the region, more than are captured by the report. The Yampa River serves as the foundation for an ever-expanding economy developed around outdoor recreational activities, industries and travel related businesses – all defined as “non-consumptive uses” that depend on the lifeblood of water that the Yampa River provides.

The Legacy Partnership, a local, community-based collaboration, has demonstrated success in addressing projects along the entire reach of the Yampa River. The Partners strongly believe the following principles are important to planning for future water needs in the Yampa River Basin for the citizens of Colorado, those that live in the Yampa Basin and to future generations of Colorado residents. The principles outlined herein address two of the three requirements as mandated in Gov. Hickenlooper's Executive Order for the CWP (D2013-005). The Colorado Water Plan must incorporate: (1) “a viable productive economy including a productive agriculture . . . recreation and tourism industries”; and (2) “a strong environment that includes healthy watersheds, rivers, streams, and wildlife.” These requirements align with Legacy's mission and mission success for the Legacy Partnership is dependent on these requirements being met.

Principles for Future Water Needs Planning in the Yampa Basin

General Principles:

1. Protect the flows in the Yampa River and its tributaries, all of which support agriculture and the outdoor and water-based recreation economies of communities found throughout the Yampa River Basin. (Requirement One of Gov. Hickenlooper's Executive Order for the CWP.)
2. Protect the flows of the Yampa River and its tributaries in order to protect the natural resources and ecology of Northwest Colorado for future generations. (Requirement Three of Gov. Hickenlooper's Executive Order for the CWP.)
3. Protect current and future flows of the Yampa River in light of the potential effects of Compact Calls or climate change.

Specific Principles:

1. Protect agricultural water in order to preserve agricultural lands.
 - Encourage preservation of irrigated agricultural lands through voluntary, incentive-based programs such as conservation easements and alternative agricultural water transfer methods (interruptible supply agreements).
2. Protect the flows of the Yampa River to preserve the native riparian habitat that supports native (and non-invasive, non-native) fish and native birds and native wildlife.
 - This includes protection of the globally rare riparian habitat found along certain reaches of the Yampa.
3. Protect the flows of the Yampa River in order to ensure the survival of the four endangered fish.
 - Support the goals of the Endangered Fish Recovery Program and the agreement captured in the Yampa River Programmatic Biological Opinion (1999-2000).
4. Protect the flows of the Yampa River to ensure both existing and future recreational opportunities will be viable throughout the entire reach of the Yampa River, including opportunities for boaters, hunters, anglers and wildlife watchers.
 - The rapidly expanding outdoor recreation industry based around the Yampa River (recreation, retail, manufacturing and travel-related businesses) is a significant component of the Northwest Colorado economy.

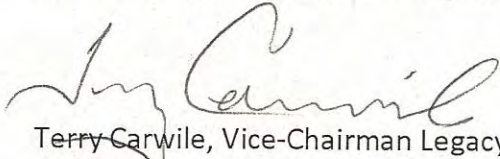
The Future of the Yampa River

The Legacy Partnership understands the importance of water for the Yampa Basin and its residents, economy and visitors. The future of our basin is in jeopardy if we, the citizens and members of the Yampa/White/Green Roundtable, do not accurately evaluate and plan for *all* our future water needs – both consumptive and non-consumptive. If this opportunity to plan appropriately into the future is missed, the Legacy Partnership's accomplishments will be at risk. We also risk the opportunity to secure significant financial resources from local, state and federal partners that have invested in the past and are poised to make additional investments to protect the future of the Yampa Basin, its lands and wildlife.

We are confident the Yampa/White/Green Roundtable will understand the importance of the Yampa River as the only relatively free-flowing river system in Colorado and understand why the Legacy Partnership shares its history, mission and accomplishments in support of the Yampa River. Please let our mission and accomplishments guide your deliberations to ensure that both consumptive and non-consumptive water uses on the Yampa River are protected within the Colorado Water Plan. The Legacy Partnership is proud of our accomplishments and we will continue to advance our mission, to which the Yampa River is critical. The Yampa River

is our legacy and is the foundation upon which the future of the entire Yampa River Valley is based.

For the Yampa River System Legacy Partnership – America's Great Outdoors



Terry Carwile, Vice-Chairman Legacy Partnership and Mayor, City of Craig on behalf of Ben Beall, Chairman Legacy Partnership and Alternate for Routt County

YAMPA RIVER SYSTEM LEGACY PARTNERSHIP – AMERICA GREAT OUTDOORS PARTNERS:

VOTING PARTNERS:

Routt County
Moffat County
City of Steamboat Springs
City of Craig
Town of Hayden
Bureau of Land Management
Colorado Parks and Wildlife (Wildlife Representative)
Colorado Parks and Wildlife (Parks Representative)
Yampa Valley Land Trust
The Nature Conservancy
Agricultural Representative Routt County
Agricultural Representative Moffat County
Recreation Representative
Business Representative
Youth and Outdoor/Environmental Education Representative
Youth and Outdoor Environmental Jobs Representative
Public Lands Representative
Yampa River Representative

NON-VOTING PARTNERS:

US Forest Service
Dinosaur National Monument
US Fish and Wildlife Service
US Geological Service
US Bureau of Reclamation
Colorado Department of Natural Resources
Northwest Colorado Watershed Partnership
Veterans Green Jobs
Routt County Conservation District

Cover Sheet for Input Document, Item #16

The document listed 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: March 19, 2014

Input provided by: Lee-Ann Hill, Dolores River Boating Advocates

Method of submission: Email to cowaterplan@state.co.us

Summary of Input: Comments from Dolores River Boating Advocates for the Colorado's Water Plan, most of which were also discussed in person with CWCB staff.

Documents Submitted for Review: Comments in attached letter

Staff Response: The CWCB appreciates the encouragement to continue to engage on solving the difficult issues on the Dolores River. CWCB and the Southwest Basin Roundtable have helped fund efforts, such as "A Way Forward," and will continue to support the Dolores River Dialogue process as appropriate. Staff will pass these comments onto the Southwest Basin Roundtable. CWCB has helped fund the operation of the Slick Rock Gage on an annual basis, and if there is considerable local support for funding the Slick Rock gage on a more permanent basis, will discuss with the CWCB Board how CWCB may be able to help fund it on a more permanent basis. Staff encourages Dolores River Boating Advocates to partner with other groups and ask the Basin Roundtable or the Watershed Protection Fund for assistance to develop a Watershed Plan for the Upper Dolores River. This could incorporate the optimization study, youth involvement, and watershed assessments. Because staff has supported many watershed efforts across the state, please contact Chris Sturm for some example grants and watershed plans that have been fruitful.

The following recommendations are submitted on behalf of Dolores River Boating Advocates (DRBA). DRBA is a grassroots non-profit organization in Southwest Colorado with over 250 supporters, and growing. DRBA seeks to optimize flows, restore the natural environment, and permanently protect the Dolores River for whitewater boating.

We appreciate the opportunity to offer input on the Governor's State Water Plan for Colorado on behalf of the Water for the 21st Century Act. We have categorized our input into gaps, processes, projects, and concepts per the framework of the Colorado Water Plan. Following are priorities for our organization that we would like to see included in the Southwest Basin Implementation Plan for the State Water Plan.

Gaps

- **Recreation Access on the Upper Dolores River:** The Upper Dolores River is a remarkable stretch of free-flowing river with wild and scenic suitability for recreation, yet it lacks safe and adequate access for recreational opportunities including boating and fishing. The San Juan Skyway runs along the Dolores River and offers highway accessibility, but an official access site has not been established which has resulted in user created access and riparian damage. An established site with day use accessibility would be ideal for enabling recreation in a manner that is safe for human use and the riparian environment. A makeshift boat put-in at the confluence of the West Fork of the Dolores River could be improved, or an access site could be established on public land upstream from the West Fork confluence. Alternatively, the purchase of property for a day use site by the state or county would enable day trips to Dolores for all levels of boaters, and would allow fishing access and day use enjoyment. A recreation plan would help identify a suitable location and help move an access project forward.
- **Habitat and boating flows on the Lower Dolores River:** Boating and habitat flows on the Lower Dolores River are currently secondary to irrigation needs in the Montezuma Valley, yet the ecological health of the Dolores River has been compromised to a point of significant concern, while boating on the Lower Dolores River has been reduced by about 35%. Flows annually that mimic the natural hydrograph would improve the natural environment and provide whitewater boating opportunities on the Lower Dolores River, as identified in the "A Way Forward Native Fish Study," and through the efforts of the Dolores River Dialogue and the Implementation Team. While the Implementation Team is looking at ways to implement flows, attaining those flows is where the gap lies. Filling this gap is a critical piece in enabling the *Implementation, Monitoring, and Evaluation Plan* to move forward to restore the ecological and recreational values of the Lower Dolores River.
- **Reliability of funding for the Slick Rock stream gage:** Each year, partners involved in the work of the Dolores River Dialogue struggle with funding for maintenance and operations of the Slick Rock stream gage. Certainty in funding is needed. The Slick Rock gage that plays a significant role in assessing adequate flows for native fish, sediment loads from upstream tributaries, and lends to a

comprehensive watershed flow assessment for the Dolores River. While the continuation of the Slick Rock stream gage is valuable for the *Implementation, Monitoring, and Evaluation Plan*, the funding is not secure or sustainable. Annual seed money would help ensure the continuation of this important stream gage, and would minimize budget uncertainty for the participating entities that could then assign a fixed amount in their annual budgets.

Processes

- **The Dolores River Dialogue:** Processes associated with the Dolores River Dialogue including the *Implementation, Monitoring, and Evaluation Plan* and the Legislative Subcommittee, are important efforts that need to continue moving forward where results can be achieved and measured, and the diligence and participation of stakeholders from throughout the Southwest and the State can come to fruition after many, many years of deliberation.
- **Upper Dolores River Recreation Plan:** As mentioned above in “Gaps,” an Upper Dolores Recreation Plan would be valuable for assessing access and user needs and potential land use issues on the Upper Dolores River.

Projects

- **Dolores River Basin Optimization Study:** To help determine efficiencies and water availability, an Optimization Study is needed. This study would lend to the processes and projects already in play in the Dolores Basin, and the implementation of efficiencies could yield additional water for habitat and recreation flows on the Dolores River, per the *Implementation, Monitoring, and Evaluation Plan*.
- **Youth stewardship and outdoor education programs:** River stewardship programs and projects that focus on youth involvement, such as Colorado River Watch, are great opportunities to get the next generation of Coloradans invested in our water and encourage wise water practices. Developing a deep understanding of water quality and quantity will help inform our future decision makers and citizens.

Concepts

- With the degree of historic mining activity in the upper Dolores watershed, a **319 Watershed Plan for the Upper Dolores River** would be valuable for assessing water quality in regards to the agricultural, fishery, riparian, recreational, and municipal needs and uses of the Upper Dolores River.
- **Watershed Assessments:** Basin-by-basin watershed assessments to determine water availability are critical before significant new projects are considered. These assessments must include non-consumptive needs for habitat and recreation.

The State Water Plan is our opportunity to be visionary about our State’s needs with additional consideration of current and past water challenges. We ask that non-consumptive needs that sustain the ecological and recreational benefits of rivers be valued alongside consumptive needs and uses in the State Water Plan. Non-consumptive water is a tremendous economic driver in Colorado, and supports the quality of life that Colorado

Dolores River Boating Advocates
Colorado Water Plan Recommendations
March 19, 2014

residents enjoy. Growth beyond our state's water means is not part of a sustainable future for Colorado. Transbasin and transmountain diversions to accommodate out of basin growth are precarious and temporary "fixes" at best that would do immeasurable harm rather than good in the long run. Living within our water means and within the carrying capacity of our watersheds is essential as we move through the 21st Century. Further, "big straw" concepts do not adequately incorporate non-consumptive needs and values of a watershed, which are essential to our own survival. We are opposed to this type of reckless water misappropriation, and we trust that a more viable and sustainable solution will be pursued.

Thank you for your consideration of our comments and recommendations. We look forward to future participation as the State Water Plan develops.

Sincerely,

Lee-Ann Hill
Program Coordinator

And

Dolores River Boating Advocates Board of Directors: Julia Anderson, Sam Carter, Kevin Cook, Jane Dally, Wade Hanson, Tracie Hughes, Andy Hutchinson, Josh Munson

Cover Sheet for Input Document, Item #17

The document listed 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: March 24, 2014

Input provided by: Melinda Kassen, WaterJamin Legal & Policy Consulting

Method of submission: Email to cowaterplan@state.co.us

Summary of Input: Comments on the draft 3/14 outline and 3/10 text of section 5.4 of Colorado's Water Plan from Conservation Colorado.

Documents Submitted for Review: Comments in attached letter

Staff Response: Staff passed the comment onto the CDPHE Water Quality Control Division, and will work to incorporate this and other comments to Section 5.4 into the revisions due to the Board in October.

Comments on March 14, 2014 Revised Draft Outline:

It is not clear if these sections of the Outline become part of the text of Colorado's Water Plan, § 5.4 or simply provide an overview of what the Water Quality Control Division (WQCD or Division¹) expects the May 2014 text to include. In either case, Conservation Colorado recommends the following changes:

1. Objective – Real integration of water quality with water supply and demand management must go both ways. Thus, it is not only important to consider the “role” of water quality in water quantity management” but also how water supply and demand management affects Colorado’s ability to comply with its water quality classifications, standards and designations.
2. Potential Approach –
 - a. The descriptions should consider the context of both water quality and water supply & demand management.
 - b. It is not clear what is meant by the “technical nature” of the quantity/quality relationship. More broadly, based on the text released so far, the approach is to show how water quality plays an important role in water management. Conservation Colorado urges the Division to describe the opposite (how water management affects water quality control) as well. The section should also describe the nature of the relationships between the state agencies that have some responsibilities for water quality and water quantity management, i.e., between the Division, the Colorado Water Conservation Board (CWCB) and the Colorado Division of Parks and Wildlife (CPW)
 - c. Given the limited length allowed for this chapter, rather than describe the statutory and regulatory nature of the quantity-quality relationship here, this section should refer to Chapter 1.
 - d. Constraints and opportunities should address all water supply and demand gaps, consumptive (both M&I and agricultural) and non-consumptive.
 - e. To achieve real integration of quality and quantity, Basin Implementation Plans (BIPs) should identify water quality goals, objectives and metrics that relate to water supply and demand management. The Division should ensure that Roundtables and their contractors have the relevant water quality data necessary to set these. After the BIPs are done, the Division should be working w/ the roundtables and their contractors to understand the basin goals, objectives and metrics so that the Division can incorporate them into its water quality management processes.
3. Supporting Info – Please add Colorado’s Climate Action Plan and the recently updated CWCB climate report (now in draft, but available at, <http://cwcb.state.co.us/environment/climate-change/Documents/ClimateChangeCOREportDRAFT.pdf>).

Comments on the sections of the outline are otherwise incorporated below into comments on the text.

¹ As a matter of style, Conservation Colorado recommends that the text capitalize the word “Division” when referring to the Water Quality Control Division throughout the text.

Comments on March 10, 2014 Text:

5.4.1 Introduction

Conservation Colorado finds this section to be well written. Because of a change to the outline, it does need now to include a reference to the Executive Order values and information about water quality from the CWCB 2013 survey on public attitudes about water. In addition, as suggested in our January 29, 2014 comments, this section should describe how Colorado's water quality control program has preserved and improved public health and the environment as well as that the program has benefitted those exercising water rights by ensuring clean water for beneficial uses from growing crops to providing drinking water to enjoying water based recreation safely.

5.4.2 Water Quality/Quantity Relationships

- Add a reference at the end of the 1st sentence to the discussion of relevant statutes and regulations in chapter 1.
- To avoid leaving the reader with any misunderstanding of the Water Quality Control Commission (Commission) and WQCD roles, please change the 2nd sentence to clarify that the Commission 'adopts regulations, guidance and policies required pursuant to the Clean Water Act, Water Quality Control Act and Safe Drinking Water Act' (rather than 'makes decisions'), while the Division implements 'those regulations, guidance and policies.'

5.4.2.1 – Water Management Relationships

The 1st bullet gives two examples about recreational fishing. These should be reversed. While reservoirs may stratify and release cold water from the bottom, in fact, many of Colorado's gold medal fisheries are reservoir tail waters, suggesting that this dynamic more often than not improves recreational fishing. There are places where cold water at the bottom of a reservoir has insufficient oxygen or is too cold for a warm water native fish swimming below the dam. However, compared to the instances where cold water releases from reservoirs maintain high quality recreational fisheries, these are less common. Therefore, this example – that cold water releases may adversely affect fisheries – should be listed **after** the far more common situation, that hydrological modifications adversely affect water quality.

That hydrological modifications adversely affect fisheries is the subject of the last sentence in this paragraph as currently drafted. It is a far more common problem: dams and diversions too often result in low flows that create conditions with low oxygen, high nutrient loads that cause algae to develop, high Total Dissolved Solids (TDS) and water temperatures that are too hot for the fishery in the receiving water. When a dam (e.g., on Bear Creek) releases water that is too hot from the TOP of the reservoir, the cold water fishery below the dam is impaired b/c of temperature. When a reservoir (e.g., McPhee Reservoir on the Dolores or Windy Gap on the Upper Colorado) or diversion reduces flows, the reach is often left with too little remaining that is too warm, too silty and too shallow to sustain a fishery. This can result in closures to fishing in the summer (like what happens every few years on the Eagle River). In the winter, without mitigation, diversions for snowmaking at ski areas can result in icing in the waterbody that substantially increases over-winter fish mortality.

From a technical standpoint, it may also be important to note that in many cases these problems can be mitigated. For example, Vail increased the size of its Black Lake #1 and #2 reservoirs upstream of the

Gore Creek gold medal fishery to ensure that it released enough water during snowmaking season to maintain minimum flows for the fish. And the CWCB worked to narrow the channels below the Rio-Chama diversions on the Rio Blanco to create a stream within a stream that collected the water to keep it cooler and flowing more quickly during low flow conditions.

The 2nd bullet gives a negative example about how requiring reverse osmosis can lead to a brine waste stream too salty to discharge back into the waterbody. Aurora's recently completed Prairie Waters Project provides a counter example of a reuse project where the city was creative and used both natural and constructed means to allow potable water reuse to proceed – all without needing any new Clean Water Act permits.

The 3rd bullet suggests that protecting water quality has costs which adversely affect the economy. This is a one-sided view. Water quality protection employs many people in the State of Colorado (and elsewhere). Protecting water quality can save money for water suppliers (e.g., by lessening their need for nutrient removal, a strategy that is both costly and results in difficult to remove pollutants that adversely affect human health). In addition, some of the costs that current discharges face are driven as much, if not more, by deferred maintenance on aging infrastructure as much as by new, more stringent regulations; one can “blame” the costs of upgrading a 30-year old plant on new regulations, but as a practical matter, upgrading aging infrastructure to maintain services would also have costs.

Moreover, while it is true that water quality regulations are designed to become tighter over time (to reach the Clean Water Act 1983 goal of 100% fishable/swimmable waters and 1985 goal of zero discharge of pollutants), our nation's and Colorado's commitment to clean water has enormous economic benefit as well. Clean water in streams has saved billions of dollars of health costs and is a basis for Colorado's \$9B recreation economy.

Finally, the Colorado Water Quality Control Act currently limits the state from adopting regulations that are more stringent than federal requirements. In the long term (50 year) planning horizon of Colorado's Water Plan, it may be appropriate to reconsider this limitation. The benefits that accrue from protecting the relatively high water quality of many of Colorado's waterbodies may outweigh the additional costs of regulatory compliance where clean water supports the state's recreation economy and keeps sensitive species off federal lists.

Conservation Colorado recommends addition of a fourth bullet to discuss how Colorado's instream water rights program assists in the maintenance of water quality standards in some waterbodies in the State. While Colorado law explicitly prohibits the Commission and Division from taking any action that requires minimum stream flows, Colorado's Water Plan should recognize that the CWCB program has tangible benefits for Colorado's water quality control.

5.4.2.2 Statutory and Regulatory Relationships

In the 3rd paragraph, for those who are not immediately conversant in Clean Water Act sections, add the explanation after the current 1st sentence both of what 401 certifications are, and why they may be relevant for water development projects. These sentences could read:

Section 401 directs states to certify that activities needing federal permits and licenses will maintain the state's water quality use classifications, standards and designations. Many water

development projects require either a federal dredge and fill permit under section 404 of the Clean Water Act, or a hydropower license from the Federal Energy Regulatory Commission.

Then continue with the existing 2nd sentence, changing it to start “Regional 82” (from ‘This regulation’). Later in that paragraph, change “*comply with water quality standards and all other applicable water quality requirements for the affected waters*” to “*maintain water quality use classifications, standards and designations.*”

In addition to section 401 certifications, another ‘primary’ example of the regulatory quality/quantity relationship is the way that, over the years, the Commission has adopted water quality classifications, standards and designations that reflect current conditions. Often, these conditions represent a lower water quality than would exist without the hydrologic modifications that occur from the exercise of a water right (e.g., dams and diversions that lower flows), or the polluted runoff that returns to the waterbody as a result of the exercise of water rights. Section 5.4.2.2 should add a paragraph about this dynamic as well.

5.4.2.3 Current Water Quality (formerly 5.4.3.1)

Even though the 3/14 outline removes any discussion of a water quality “gap,” Conservation Colorado would urge retention of the first four paragraphs of the text on the top of page A3-3 in the new 5.4.2.3, “current water quality condition.”

Assuming that this text does remain, it should include another paragraph about water quality designations in Colorado, as required pursuant to federal regulation and EPA’s and the state’s antidegradation policy. The Division’s response to our comment about the need to discuss the state’s antidegradation policy from our January 29, 2014 comments stated that this would be an appropriate section where this discussion could be included. Conservation Colorado agrees.

In addition, in the first sentence of the second paragraph, while “Standards are the basis for evaluating the statute of water quality for each waterbody,” it would be more accurate to say that, “The Commission sets water quality standards to protect classified uses and designations to protect existing water quality.”

5.4.2.4—Future Water Quality Condition (formerly 5.4.3.2)

This section should include, as suggested in our January 29, 2014 comments, a brief discussion not only of how water supply and demand actions and climate change may affect water quality, but also the additional water quality standards EPA is likely to require in Colorado. These include at least: increased nutrient control, more stringent arsenic standards, a new selenium standard and possibly control of emerging contaminants. Achieving these standards should make water quality in Colorado even better than it is now, and thereby maintain our quality of life, important ecosystems and recreation economy.

5.4.3.1 Statutory and Regulatory Framework (formerly 5.4.4.1)

As suggested above, given the need to keep this section of Colorado’s Water Plan at ten pages or fewer, it would make sense simply to reference the discussion in Chapter 1.

5.4.4 Water Quality Recommendations

Conservation Colorado suggests the following additional specificity for the bulleted recommendations:

- Reuse: The Division and Commission will review existing regulations, guidance and policy documents to consider revisions that will protect human health and water quality while also providing sufficient flexibility for water suppliers to develop a substantial number of new water reuse projects across the state. To the extent that it is appropriate, the Division and Commission will seek input on regulatory improvements from the Water Quality Forum and the CWCB.
- Green Infrastructure: Similar to above. In addition, consultation with green building groups and storm water management interests may provide additional opportunities for using green infrastructure to maintain or improve water quality while conserving water supplies and meeting increased water demands at competitive if not lower costs. The Division and Commission should consider development guidance documents that would enable Colorado to grow the number of communities, water suppliers and dischargers who rely on green infrastructure.
- Goals & Performance Measures: The recommendations should include quantified targets and commitments, consistent with the goals, objectives and measurable outcomes in the BIPs related to water quality.

In addition, consistent with some of the earlier comments from the Wastewater Utility Council, there should be a recommendation (or two) about using Colorado's Water Plan as an opportunity to consider adding water quality program elements that improve control of pollutants entering the state's waterbodies through non-point sources (polluted runoff).

Conclusion

Water quality control in Colorado is critical to the quality of life we currently enjoy, and will remain critical to quality of life for future generations. Conservation Colorado appreciates the Division's efforts in putting together this section of Colorado's Water Plan. We agree with Governor Hickenlooper's Executive Order that integration of water quality control with water quantity management is important for Colorado's future.

As work on Colorado's Water Plan proceeds, we hope to see the information and ideas in §5.4 make their way into other relevant parts of the Plan, including the assessment of water demands, the Basin Implementation Plans, the descriptions of other water management strategies elsewhere in Chapter 5 and the Recommendations that the Plan will make in Chapter 8.

Chapter 6 of the Plan will include discussions of funding. Conservation Colorado urges the Division to participate in the crafting of that section of the Plan. Many sources of funding exist to protect water quality in the State, including Colorado's revolving fund created through Clean Water Act funds, the Salinity Control Program that also receives federal money and a number of Farm Bill loan programs. Recently, Colorado made funds available to small wastewater treatment facility operators to help them comply with nutrient standards and regulations. These kinds of responsive programs will continue to be important as the state more closely integrates water quality control and water quantity management.

Cover Sheet for Input Document, Item #18

The document listed 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: March 24, 2014

Input provided by: Mary Gardner, Colorado Wastewater Utility Council

Method of submission: Email to cowaterplan@state.co.us

Summary of Input: Webform comment as follows: "The Colorado Wastewater Utility Council is submitting comments relating to water quality issues. The Colorado Wastewater Utility Council (CWWUC) is a nonprofit organization. Its mission is to professionally and responsibly promote environmental protection by supporting legislation and regulations which achieve well-defined environmental benefits while maintaining local flexibility. The CWWUC represents large, medium and small wastewater treatment facilities, state wide."

Documents Submitted for Review: Comments in attached letter

Staff Response: The Colorado Wastewater Utility Council provided several comments. Several of the comments related to reuse were incorporated into Subsection 5.6.2 and those comments will be considered for incorporation into the October draft of that subsection. **With regard to 208 Plan funding, CWCB staff will discuss this further with the Board. Funding will be incorporated into Section 6.1.** CWCB staff would welcome the opportunity to better understand watershed permitting from the CWUC perspective. CWCB staff will further research the EPA's "agency interpretation of applicability of Section 402 of the Clean Water Act to Water Transfers". With regard to additional recommendations for permitting concerning the lengthy and uncertain permitting of reuse projects, CWCB staff will consider these for incorporation into the October draft of Section 5.10. Subsection 5.6.2 Reuse does support technical development for reclaiming wastewater.

Colorado Wastewater Utility Council

February 14, 2014

The Colorado Wastewater Utility Council provides these initial comments on Water Quality Issues to be considered in Colorado Water Plan. The Council may provide further comments to the Division and others as the Plan is further developed and issues arise. Thank you for the opportunity to provide these comments late in the Division's initial drafting of its chapter on Water Quality.

1. The role of wastewater plants in meeting the anticipated gap in water supply and in helping to meet the water demand for potable water is not much discussed but should be. Potential uses of wastewater treatment plants' effluents include:

- Reuse of wastewater for meeting drinking water needs by direct reuse or indirect reuse through blending with raw water supplies. Cases of direct and indirect purposeful reuse for drinking water supply should be provided. California and Texas have such examples.
- Discharge to streams meeting drinking water quality standards applied to surface streams enables downstream diversion. Such standards must protect the "domestic water supply" use along with "recreational uses," and "agricultural uses" including the Uses downstream. But uncontrolled nonpoint sources between the discharge and the diversion can foul the clean river water and necessitate repeated drinking water treatment. How to share the treatment costs is an ongoing controversy.
- Discharge to streams meeting aquatic life water quality standards more stringent than drinking water standards enables downstream drinking water diversion. It is important to emphasize that the standards for protecting aquatic life are generally far more stringent than those to protect the other uses just referenced, particularly drinking water uses. These stringent standards are driving more refined treatment levels that often result in the effluent quality being better than that quality in the stream to which it discharges. Wastewater plants are now a clean dilution of streams that could be more reuseable but for uncontrolled nonpoint sources.
- Reuse of non-potable water from treatment plants for landscape irrigation is increasing. Dual piping for lawn irrigation as distinct from potable domestic water supply to residential areas is technically feasible. Reuse of effluent for landscape irrigation of golf courses is more common. Reuse water for power plant cooling water is also increasing. Such reuse in essence expands the available potable water supply to meet the demand gap.

2. Point sources are required to meet more and more stringent standards per the Clean Water Act. This will automatically lead to the necessary tighter controls of nonpoint sources, including urban and agricultural runoff, storm water management systems and in rare cases water transfers.

3. The Colorado Water Plan is an opportunity for a holistic view of water quality and the relationships of point, nonpoint, natural conditions and other human activities impacting water quality of streams, rivers and watersheds.

4. This Plan has a significant role under the Federal Clean Water Act. As noted in EPA's "Agency Interpretation on Applicability of Section 402 of the Clean Water Act to Water Transfers" issued August 5, 2005, at page 8, water quality planning, water resource planning, and land use planning should be used to address multiple sources of water quality problems. Statutory provisions supporting this approach include Colorado Water Quality Act § 102(b) (reservoir planning); Clean Water Act § 208(b)(2)(F) (land use planning to reduce agricultural nonpoint sources of pollution; (2G) to reduce mining sources; (2H) construction related sources; (2J) all residual waste sources); and CWA § 401 (state certification of federally licensed projects).

5. A reduced and limited role of 208 planning remains in Colorado and should be expanded to return to the intended integration of point sources and nonpoint source controls. This could include management of water transfers. Current 208 planning remains in the areas where wastewater plants are willing to pay for the program. The Colorado Water Plan should incorporate greater funding, by all water users and others, of 208 planning efforts, so as to remove hurdles to water transfers and encourage water reuse.

6. Watershed based permitting and planning is emerging. A watershed can be as small as the Bear Creek watershed, or as large as the Upper Colorado River Basin. It should include 208 area-wide and basin planning and participation by all stakeholders, including nonpoint sources, stormwater dischargers, diverters, and agricultural activities. Watershed Basin Authorities similar to the Cherry Creek Basin Authority with local tax support for nonpoint source control and area-wide remediation programs are needed.

7. Clean Water Act §303(d) requires waters in non-attainment of standards be listed as impaired and a total maximum daily load developed. Impairment typically is due to both point and non-point sources; however, TMDL requirements are laid out differently for attainment for each. Non-attainment of standards is relevant to water diversion and transfer such that 401 Certification by the State of water diversion facilities may be denied or strongly conditioned. Thus setting priorities for the conduct of TMDLs should include consideration of anticipated water project permitting schedules.

Other TMDL **implementation** options not currently applied in Colorado need to be considered. The state needs to re-evaluate its TMDL program to determine if it is working: how long does it take waters to meet goals of the TMDL, which waters are incapable of meeting the TMDL, are the water uses classified correctly, are the data requirements for determining non-attainment appropriate, etc. As water quality standards in Colorado become more and more stringent, more waters are being classified in non-attainment. Is this a correct application and assessment of the water quality in Colorado? How will water transfers and water withdrawals be impacted in the future and (currently) due to more stringent standards?

8. Where 401 Certification of federally permitted projects raises water quality issues impacting water transfer as well as the point sources upstream or downstream of such transfer related activity, then state funding needs to be available to conduct planning and evaluation, via a 208 plan or watershed wide or cross watershed wide planning and mitigation measures.

9. Where local or county based implementation of “1041 permitting” on water or wastewater projects or related land use projects results in water quality standards driving the decisions by the 1041 permitting authority, the limitations of CRS 25-8-104 (1) must be explicitly affirmed. Similarly, 25-8-102(4) must be affirmed that the Water Quality Control Commission and the Division and other Implementing Agencies are the final authority in the administration of water pollution prevention, abatement and control. It must be recognized that local and county governments in the exercise of 1041 permitting powers are exercising powers of “statewide concern” similar to the Commission and Division, but are likely responsive to the needs of its own wastewater and stormwater entities at the expense of entities in other counties with a water diversion for use in other watersheds. In such cases, the role of the Commission as the truly final “statewide concern” authority should be maintained.

10. The role of wastewater plants in treating wastewater for groundwater recharge and storage for subsequent potable use is just emerging in Colorado. Only one new plant (Cherokee Metropolitan) has taken on the significant risks of such a venture. The policy of the Colorado Water Plan should be to support such technology development and should include using lengthy permit based compliance schedules in lieu of more onerous enforcement compliance schedules. Case studies and technology support may assist development of this method of reclaiming wastewater and its storage and reuse as potable water supply.

That the discharge is to groundwater and not surface water exempts the treatment process from CWA requirements. New wastewater treatment facilities using innovative technology when beginning startup must not be expected to be in immediate compliance.

The Total Dissolved Solids (TDS) standard for secondary drinking water standard protection should not easily prevent the development of such storage and water resource supply facilities.

11. The role of stormwater as a water supply should be understood. Treatment of stormwater to meet best management practices or even water quality standards prior to discharge will be so costly as to discourage the discharge to streams and will justify recapture and return to water supply systems, if water rights issues can be resolved.

12. Colorado needs to bring back major funding for water projects, be it upgrades to wastewater treatment facilities, non-point source improvements, storm water system upgrades, etc. The SRF has diminished to almost nothing. It was the intention of the EPA that as federal funds diminished states were to be positioning

themselves to pick up the slack. If the citizens of Colorado are truly “willing to pay” then we must develop a large fund for all kinds of water associated projects, i.e. small town wastewater treatment plant upgrades due to increasingly stringent water quality standards etc.

13. Nutrient standards, nitrogen and phosphorus, adopted in Colorado as interim values will cause a projected \$1.5 billion in wastewater treatment plant upgrades. Costs for nonpoint source control will increase. Funding must continue to be considered a statewide concern.

14. The EPA Partnership Agreement is an annual contract with the State to define water quality performance goals and tasks to be completed by the State with EPA funding. That process should be more transparent, subject to Legislative review, and utilized to support ways to overcome water quality hurdles to meeting water supply gaps.

If the Division has questions on these comments, please contact Tad Foster, counsel for the Council.

Cover Sheet for Input Document, Item #20

The document listed 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: March 27, 2014

Input provided by: Kent Holsinger, Holsinger Law on behalf of the Colorado Oil and Gas Association

Method of submission: Email to James Eklund; forward to cowaterplan@state.co.us

Summary of Input: Colorado Oil and Gas Association's Position Paper on Colorado's Water Plan. The document was circulated to the Basin Roundtables as well.

Documents Submitted for Review: Comments in attached letter

Staff Response: CWCB staff appreciates the thoughtful comments from COGA and will work to incorporate the concepts into 5.6.5 Self-supplied industrial. CWCB will explore with the Colorado Energy Office the permitting suggestions made by COGA for the October draft version of Section 5.10.



1800 GLENARM PL.

SUITE 1100

DENVER, CO 80202

Phone 303.861.0362

Fax 303.861.0373

WWW.COGA.ORG

**COLORADO OIL & GAS ASSOCIATION'S
POSITION PAPER ON THE COLORADO WATER PLAN
MARCH 27, 2014**

EXECUTIVE SUMMARY

The Colorado Oil & Gas Association (“COGA”) appreciates the opportunity to provide input on Governor Hickenlooper’s and the Colorado Water Conservation Board’s (“CWCB”) effort to develop a plan to address Colorado’s future water challenges (“Water Plan”). COGA urges the CWCB to recognize and consider the importance of oil and gas and its need for reliable and sustainable water supplies in the Colorado Water Plan. In particular, we urge you to include the following points:

1. Water Rights are Property Rights. Under Colorado law, water rights are property rights which are intended to be freely transferrable. The Water Plan must not undermine or erode this important concept.

2. The Oil and Gas Industry Benefits Colorado. The oil and gas industry is a cornerstone of Colorado’s economy. The Water Plan must recognize this fact and that the oil and gas industry confers benefits to the state far beyond the industry itself.

3. Oil and Gas Regulation is Comprehensive. Every aspect of oil and gas exploration, development, and production is heavily regulated by an array of local, state, and federal government entities. The State of Colorado is recognized to have some of the most comprehensive rules in the country. The Water Plan must take existing regulations into account and recognize the unproductive nature of overlapping or overreaching regulation.

4. Oil and Gas Requires Reliable Water Supplies. Oil and gas development consumes a small proportion of the state’s water, yet produces large economic, employment and public finance benefits for this investment. Access to reliable supplies is crucial to domestic production and the benefits that derive therefrom. The Water Plan must take this into consideration when contemplating water conservation efforts.

5. Agriculture and Oil and Gas. Agriculture and oil and gas have much in common. Industry is as an ally to the state’s largest water user. For example, the Water Plan should recognize that oil and gas provides critical capital and income to agricultural operations from payments including, but not limited to: royalties, payments for oil and gas leases and surface uses, and term leases of water for oil and gas operations.

I. INTRODUCTION

On May 14, 2013, Colorado Governor, John Hickenlooper, issued an executive order directing the Colorado Water Conservation Board (“CWCB”) to draft a water plan (“Water Plan”) that will outline a framework for Colorado’s future water policy.¹ Specifically, the Water Plan is intended to reflect values including a productive economy that supports vibrant and sustainable cities, viable and productive agriculture, and a robust skiing, recreation, and tourism industry.² The draft Water Plan is due to be issued by December 10, 2014 and the final Water Plan will be completed no later than December 10, 2015.³

The Colorado Oil and Gas Association (“COGA”) appreciates this important effort and urges the CWCB and the Basin Roundtables to recognize and take into consideration important legal, economic, and practical aspects of Colorado water law and the importance to the state of water use related to oil and gas exploration and development.

II. COLORADO WATER LAW AND THE PRIOR APPROPRIATIONS SYSTEM

Colorado’s water law has developed over the past century-and-a-half to reflect the unique demands and hydrology of a “headwaters” state. Beginning with the applications of early settlers, trappers, traders, and miners, water became more than a vital element in an arid land; it became a valuable commodity.⁴

Over the next hundred years, Colorado water law continued to develop through Constitutional amendments, statutes, and court decisions. As we know it today, some of the most fundamental tenants of Colorado water law include the following:

1. The Prior Appropriation System. Persons who put water to use before others have a superior right to those who put water to use at a later time.⁵ This superiority in right is referred to as “priority.”
2. Water Rights are Property Rights. The right to use water is a property right that is created by diversion of water and application of that water to a beneficial use.⁶ A

¹ The Hon. John Hickenlooper, Executive Order Directing the Colorado Water Conservation Board to Commence Work on a Colorado Water Plan (May 14, 2013), available at: <http://cwcwebblink.state.co.us/WebLink/ElectronicFile.aspx?docid=171100&searchid=c428f27e-6b83-4a97-908c-31bb6996cf74&&dbid=0> (hereinafter, “Executive Order”).

² *Id.* at 3.

³ *Id.*

⁴ James N. Corbridge Jr. and Teresa A. Rice, Vranesh’s Colorado Water Law, Revised Edition, 4 – 5 (1999).

⁵ See Colorado Constitution, art. XVI, §§ 5 – 6.

⁶ Joseph L. Sax, Water Law, Planning & Policy: Cases and Materials, 218 (1968).

water right is formalized and entered into administration by application to one of the seven water courts in the state.⁷

3. Water Rights Are Freely Transferrable. Water rights are free to be bought, sold, inherited, devised, and encumbered like other property rights.⁸ As such, water rights are not tied to the land and the use of the water may be changed by a subsequent owner.⁹

More recent legal developments have created further flexibility in the use of water rights. For example, a number of legal mechanisms allow water rights to be put to use out of priority so long as there is a plan in place to protect vested water rights.¹⁰

On the whole, Colorado law is designed to create a market for water rights that simultaneously ensures protection of these valuable rights, allows for the free transfer of these rights, and promotes the flexible application of water to new and versatile uses. In developing the Water Plan, the CWCB and the Basin Roundtables must be respectful of these important tenants of Colorado water law, while still leaving room for innovation.

The Governor's Energy Office is also exploring innovative ways of making produced water from oil and gas operations available for beneficial use. In some circumstances, the oil and gas industry has the ability to add to existing water supplies. Streamlining existing permitting requirements could help facilitate the development and use of this water.

III. OIL AND GAS IN COLORADO

Colorado has a long and productive history of oil and gas development. Several aspects of oil and gas industry bear particular relevance to the state Water Plan and warrant recognition and consideration therein. COGA believes the Water Plan should expressly recognize the following:

A. The Economic Benefits of Oil and Gas

According to the University of Colorado's Leeds School of Business, in 2012 Colorado's oil and gas industry produced \$29.6 billion in economic activity; this equates to \$80.8 million dollars generated every day of the week, including Sundays.¹¹ Compared with the

⁷ Robert V. Trout *et al.*, *Acquiring, Using and Protection Water in Colorado*, 5 – 6 (2004).

⁸ Carrie L. Ciliberto and Timothy J. Flanagan, *Colorado Water Law Benchbook*, 7-5 (Revised January 2013); see *Strickler v. City of Colorado Springs*, 26 P. 313, 314 (Colo. 1891).

⁹ See C.R.S. §§ 37-92-103(5) (change of water right); 38-30-102(2) (Water rights conveyed as real estate).

¹⁰ §§ 37-80-120 (substitute supply upstream storage); 37-83-104 (exchange between reservoirs and ditches); 37-92-308 (substitute water supply plans); 37-92-103(9) (augmentation plans); 37-75-309 (interruptible water supply agreements).

¹¹ Brian Lewandowski and Richard Wobbekind, *Assessment of Oil and Gas Industry: 2012 Industry Economic and Fiscal Contributions in Colorado*, 7 (July, 2013), http://www.coga.org/pdf_studies/UniversityofColorado_LeedsSchoolofBusiness_Oil&NaturalGasIndustry_EconomicStudy2012.pdf ("Leeds Study"); COGA *et al.*, *Oil and Natural Gas in*

industry's water consumption, estimated at 16,000 acre-feet in 2012, this means that each acre-foot of water used by the industry that year produced \$1.85 million in economic activity. \$9.3 billion of this economic activity was the direct result of oil and gas production.¹² In the same year, royalties paid directly to landowners was estimated to be around \$614 million.¹³

Employment by the industry is also substantial: in 2012, over 51,200 jobs resulted directly from the industry and the total resulting employment exceeded 111,400 jobs.¹⁴ In terms of water use: each acre-foot of water used by the industry in 2012 supported 7 jobs. The average wages of those employed in the industry averaged over \$74,800 – 49% above the state average. In total, the oil and gas industry contributed over \$3.8 billion in employee income to Colorado households in 2012, or 2.8% of Colorado's total wages.¹⁵

Beyond its market-based value, the oil and gas industry contributed over \$1.5 billion to Colorado public revenues in 2012.¹⁶ Thus for each acre-foot of Colorado water consumed, the industry returned \$93,750. Of this total amount, \$163 million consisted of severance taxes, which help finance new project construction and repairs and maintenance on water projects through the CWCB's construction loan program, and Colorado's Species Conservation Trust Fund, which helps provide Endangered Species Act compliance for water rights owners around the state.

Over \$600 million in property taxes were collected by local governments in 2012,¹⁷ or an estimated \$37,500 for each acre-foot of water used. These funds were used for schools, emergency response, water and sanitation, parks, libraries, and cemeteries.¹⁸ In Weld County alone, \$150 million in oil and gas property taxes were collected in 2012, approximately 40% of which went to schools.¹⁹ Likewise, in Garfield County, \$100 million was collected from oil and gas, approximately 33% of which went to schools.²⁰

COGA urges the state Water Plan to recognize that the investment of Colorado water in the oil and gas industry has produced significant economic, employment, State and local revenue benefits for each acre-foot of water used.

Colorado, Oil and Gas By the Numbers, available at <http://www.oilandnaturalgasincolorado.com/CONG.by.the.numbers.pdf>.

¹² *Id.* 1, 8.

¹³ *Id.* at 8.

¹⁴ *Id.* at 12.

¹⁵ *Id.* at 1, 13 – 14.

¹⁶ *Id.* at 15.

¹⁷ *Id.* at 1.

¹⁸ *Id.*

¹⁹ COGA *et al.*, Oil and Natural Gas in Colorado, Local Benefits (citing Office of the Weld County Treasurer and Office of the Garfield County Treasurer), available at <http://www.oilandnaturalgasincolorado.com/CONG.local.benefits.pdf>.

²⁰ *Id.*

COGA urges the state Water Plan to reflect the importance of the oil and gas industry to Colorado's economic health and the benefits realized throughout the state as a result of oil and gas activities.

Significant amounts of water quality data have been collected by oil and gas operators throughout the state, and made public through the COGCC website and other avenues. Partnerships between oil and gas companies and local water groups present an opportunity for communities and the State to make fact-based decisions regarding watershed planning and management.

B. Regulation of Oil and Gas in Colorado

Colorado has some of the most comprehensive and robust regulations governing oil and gas in the United States. The Colorado Oil and Gas Conservation Commission ("COGCC") regulates every aspect of oil and gas exploration, development, and production, including waste management, reclamation, and wildlife protection.²¹

In addition to the COGCC, the industry is regulated by the Colorado Department of Public Health and Environment, Colorado Parks and Wildlife (COGCC Wildlife Rules), the Colorado Division of Water Resources, local governments (zoning), and federal agencies including the Bureau of Land Management and the United States Forest Service (land use plans).

In formulating the Colorado Water Plan, the CWCB should recognize that the Colorado oil and gas industry is already subject to extensive regulation by a host of governmental entities and that further dividing regulatory authority will result in inconsistent, fragmented, overly-complex, and ineffective regulation.

C. Water Use for Oil and Gas in Colorado

Common sources of the water used for oil and gas production include water purchased or leased from municipal sources, water purchased or leased from third-parties, or water recycled from previous operations.²² According to the Colorado Department of Natural Resources and the CWCB, oil and gas development accounts for only 0.13% of the total water used in the state.²³

The water used in hydraulic fracturing is even more minute: in 2010 it accounted for only 0.08% of water consumed in the state.²⁴ The annual demand for water for hydraulic

²¹ COGCC Rules (ammd. 2013), available at <http://cogcc.state.co.us/> (900 Series (waste management), 1000 Series (reclamation), 1200 Series (wildlife)).

²² COGA *et al.*, Oil and Natural Gas in Colorado, An Educational Message From Colorado Oil and Natural Gas Producers, 18 (citing Office of the Weld County Treasurer and Office of the Garfield County Treasurer), available at <http://www.oilandnaturalgasincolorado.com/OilandNaturalGasinColorado.html#/0>

²³ Colorado Division of Water Resources, CWCB and COGCC, Water Sources and Demand for the Hydraulic Fracturing of Oil and Gas Wells in Colorado from 2010 through 2015, available at: http://cogcc.state.co.us/Library/Oil_and_Gas_Water_Sources_Fact_Sheet.pdf.

²⁴ *Id.*

fracturing is predicted to increase only slightly by 2015 to only 18,700 acre feet, or approximately 0.1%, of Colorado's water supply annually.²⁵ This is less than the environmental commitment from a single reservoir project in the state.²⁶

The Water Plan must acknowledge this relatively low use of water in developing its water conservation framework.

IV. AGRICULTURE AND OIL AND GAS

Agriculture and oil and gas have much in common. Both rely upon dependable and sustainable water supplies for operations. Both rely upon surface uses to produce commodities. However, land and water use by oil and gas is temporary. As discussed above, the water required for oil and gas operations amounts to less than the proverbial drop in the bucket. Yet oil and gas produces capital and long term income for landowners that supplements and supports their agricultural operations and family farms. In some cases, water from natural gas operations is an important supplemental supply of water for communities reliant on ranching and outfitting.

The Water Plan should preserve the cooperative and compatible relationship between agriculture and oil and gas. Doing so will help preserve Colorado's agricultural heritage and future.

VI. CONCLUSION

In drafting the Water Plan, COGA urges the CWCB and the Basin Roundtables to preserve fundamental tenets of the prior appropriations system and Colorado water law. While there may be opportunities for innovation and streamlining, it must not be done at the expense of property rights and regulatory certainty. The Water Plan must recognize the importance of oil and gas to Colorado and the need for reliable water supplies, albeit in small quantities. Finally, COGA encourages the CWCB and Basin Roundtables to recognize and respect the comprehensive and robust regulations that already govern oil and gas operations in Colorado.

²⁵ *Id.*

²⁶ The Aspinall Unit Reservoirs were required to release over 35,000 acre feet for environmental purposes in 2011.

Cover Sheet for Input Document, Item #22

The document listed 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: March 27, 2014

Input provided by: Eddie Kochman, Colorado Citizen

Method of submission: Email to Craig Godbout & Linda Bassi; forwarded to cowaterplan@state.co.us

Summary of Input: Text from email: "I have attached my comments and recommendations for input into the Colorado State Water process. I did attend the recent Fairplay meeting. Since my major input concerns stream, rivers and aquatic habitats I am also providing a copy to Linda Bassi. Thank you again for the presentation and opportunity for input. I hope members of the Board are taking the time to read the various public comments."

Documents Submitted for Review: Comments in attached letter

Staff Response: The CWCB will pass the comments related to encouraging a strategic look at environmental needs to the South Platte and Metro BRTs and CWCB's Stream and Lake Protection Section. With regard to funding, this will be further explored in Section 6.1 including the Instream Flow Acquisition Program and opportunities to support monitoring. **The commenter asked if riparian areas could be protected with instream flows. Although not fully tested, instream flows can be designed to directly benefit riparian areas, and the CWCB Stream and Lake Protection Section will discuss the issue with the CWCB Board in May, 2014.** CWCB has been working with the BLM to design an approach to in-stream flows by providing a flood flow component in the spring. Comments related to watersheds will be incorporated into Section 5.3. The CWCB will use the Source Water Assessment and Protection Plan (SWAP) in the Upper South Platte as an example and will consider funding for SWAPs as part of the recommendations. **CWCB staff will discuss with the CWCB Board in May, 2014 the issues related to both SWAP and 208 plans.** Regarding the comments related to fracking: Fracking will be discussed in Subsection 5.6.5 Self-supplied industrial and will be further discussed in SWSI. Fracking currently uses approximately 18,000 acre feet per year, which is a very small proportion of Colorado's overall water use. However, there may be some areas where there are greater regional effects. In addition, power plants that burn natural gas to make energy use less water than traditional power plants. Therefore, from an overall resource management perspective,



coloradowaterplan.com

cowaterplan@state.co.us

Direct 303-866-3441

fracking and the resulting energy production do not consume a significant amount of water compared to current levels. Under Colorado's constitution there is a right to use water for beneficial purposes if it is available. Colorado's Water Plan is not geared toward restricting specific beneficial uses such as fracking.

March 24, 2014

Concept paper, including recommendations to the Colorado Water Conservation Board, regarding the Colorado Water Plan process and in relation to the future status of streams, rivers, natural lakes, riparian and wetland habitats in Colorado.

Author: Eddie Kochman, eddiekochman@aol.com 303-919-6639

Submitted for the Colorado Water Plan public input record to: Craig Godbout, Program Manager, Water Supply Planning Section, Colorado Water Conservation Board, 1580 Logan St., Suite 200, Denver, Colorado 80203 craig.godbout@state.co.us 303-866-3441. Ext. 3210

OVERVIEW

The following discussion and recommendations represent my views as a Park County landowner who has adjudicated wells and property that borders the Middle Fork of the South Platte River, which includes riparian and wetland habitats. I am a resident of Northglenn.

Currently there is an established process (Governor executive order, May 2013) to complete a Colorado Water Plan. The responsibility to complete the Colorado Water Plan (CWP) has been assigned to the Colorado Water Conservation Board (CWCB) including establishing roundtables for each of eight river basins. Each basin roundtable is composed of designed members. Public input has been a priority throughout the process. The objective is to have a draft plan to the Governor by December 2014 and a final plan completed by the CWB in December 2015. Public input into this plan is of critical importance.

I attended the March 19 meeting held in Fairplay and listened to the presentation given by the CWCB which included goals of the CWP. As stated, I am a property owner in Park County with wells, including domestic, on the property. Portions of my property border the Middle Fork of the South Platte River, which is an outstanding trout fishery, including a self-sustaining brown trout population. I do have both riparian and wetlands habitats on the property which supports a diversity of wildlife species. Segments of the Middle Fork are designated as Gold Medal by Colorado Parks and Wildlife.

I also am retired from the previous Colorado Division of Wildlife (now Colorado Parks and Wildlife) of which a portion of time (four years) was spent as the aquatic biologist who helped to establish the beginning process (1973 Senate Bill 97, enabling legislation) for establishing minimum flow recommendations for stream and rivers, and water volumes for natural lakes and other aquatic habitats throughout Colorado. For the first time in Colorado's history of water appropriation and management it was legislatively recognized the importance to "correlate the activities of mankind with some reasonable preservation of the natural environment." The original Senate Bill 73 has been amended, but still maintains the original objectives.

For two years I did represent the Division of Wildlife on the CWCB as an ex-officio member. This experience guided preparation of this document.

Park County and South Park is a classic and unfortunate example of the dewatering of irrigated ranch land, when in the 1950's cities and others purchased agricultural rights for downstream (Front Range metropolitan area) uses. Thousands of acres of historically irrigated lands were dried up. As a result,

there is very little unappropriated water left in the area. The resulting impact to agricultural and the overall economy of the area has been very detrimental. In my opinion, historic acreages of wetlands, riparian areas and stream/river flows have been severely impacted, primarily in the upper South Platte basin and will never be brought back to the conditions that existed prior to the dewatering. The future goal, at the very least, should be to not lose any more of these resources and hopefully enhance what is left.

Listening to this presentation encouraged me to prepare this concept paper, which does include recommendations **specifically** directed at the long-term health/viability of streams, rivers, natural lakes, riparian areas, wetlands and watersheds, not only in Park County, but throughout Colorado.

The primary goal of the CWP is to determine the future demand for water to meet the diverse needs for Colorado. The analysis extends to 2050, at which time Colorado's population will significantly increase together with demands for water. A related goal is to determine the, "gap between water supplies and water demands," together with ways to close the gap. Increased water storage, including new reservoirs and expanded storage capacity in existing ones, conservation, basin diversions (West Slope to East Slope) and pumping from underground aquifers are options. Preservation of agricultural water rights is an objective. Unfortunately this was not a recognized objective in 1950. If it was Park County might still have an extensive acreage of irrigated meadows.

As a landowner/ conservationist, who is also a fisherman, I am very concerned that once the CWP is finalized and implemented there will be a **progressive failure** to maintain the "health" of aquatic habitats (streams, rivers, natural lakes, riparian areas, wetlands and watersheds) throughout Colorado.

A stated goal of the CWP: "a thriving **environment that includes healthy watersheds, rivers, streams and wildlife.**" In addition, at the Fairplay meeting it was stated: "**Protecting Colorado's aquatic and riparian environment is important for overall watershed health and Colorado's economy.**"

How these goals are accomplished in face of the other water demands (closing the future water gap) will be a major challenge, especially in view of historic water management in Colorado that has given reduced priority to protecting diverse aquatic habitats, watersheds and improved forest health. Park County is only one example of the environmental, social and economic impacts of dewatering throughout Colorado.

While current legislation does provide the CWCB authority to hold and defend adjudicated water rights for minimum stream/river flows, natural lakes and other aquatic habitats, there still remains, in my opinion, a significant future threat to aquatic habitats throughout Colorado. I have the same opinion concerning watersheds and forest health, including lands administered by the U.S. Forest Service.

RECOMMENDATIONS FOR CONSIDERATION IN THE CWP PROCESS

Recommendation: I estimate that there are currently 70% of streams and rivers in the upper South Platte watershed that have adjudicated water rights for minimum stream flows. These rights are held by the CWCB. The remaining 30% have no established minimum flows, or adjudicated rights. These are my estimates and need further verification based on CWCB records.

A process should be established in the CWP to complete minimum flow recommendations on every remaining stream and river in the upper South Platte watershed over a specified period of time. The same objective should be included in the CWP for each of the eight basins in Colorado.

Colorado Parks and Wildlife (CPW) has a lead role in recommending minimum flows to the CWCB for consideration. CPW also has a role, together with the CWCB, in defending actions that would harm these rights. Both the CWCB and CPW are to be commended for the leadership they have demonstrated in implementation of the current legislation that directs establishing minimum stream flows and protection of aquatic habitats, including natural lakes. The annual workshops hosted by the CWCB to determine future priorities for establishing minimum flows for stream/ivers and other aquatic habitats should consider this recommendation, including establishing flow levels for riparian and wetland habitats within river corridors.

Even though decrees obtained for minimum flows will be junior rights, they will allow a significant level of protection, due to the ability of the CWCB to object to changes in points of diversion of more senior rights, water transfers and other actions. **Collectively, established water rights in streams, rivers, natural lakes and other aquatic habitats will be of major importance in achieving a stated goal of the CWP.**

Recommendation: Wetlands and riparian areas are among the most threatened aquatic habitats in Colorado and the nation. The CWP should include meaningful actions to protect these habitats. Established minimum stream flows may not be adequate to protect riparian and wetland habitats, especially with future demands for water.

Protection of streams, wetlands and riparian habitats is a national priority. This is further evidenced by the recently proposed rule by the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers. The proposed rule will further define authority under the federal Clean Water Act and court rulings that provide expanded authority for protection. I strongly support such action, especially in relation to the demands that increased population growth and other activities will place on management and protection of water sources necessary to maintain diverse aquatic habitats.

Assuming this rule is enacted, Colorado could be in a leadership position to demonstrate in the CWP that it is serious about protecting aquatic habitats and water quality.

In certain cases these habitats can even be enhanced. Stream/river restoration projects throughout the upper South Platte basin largely conducted by CPW and in some cases by Park County, have science based data to show aquatic habitats and fisheries populations have been enhanced. Improved water quality, especially from reduced bank and flood plain erosion, is also a benefit. **Expanded sources of funding to complete such restoration on a state wide basis could be a future CWP objective.**

Current legislation allows for the appropriation of water to “maintain the natural environment to a reasonable degree,” which has been largely interpreted to mean establishing a flow to maintain the fishery in a stream, or river, or water volume in a natural lake. This is an important objective. **However, can this same legislation include establishing necessary water volumes to maintain riparian and wetland habitats that are adjacent to a river channel and which depend on the same source of water?** I would like CWCB’s opinion on this question. If the answer to this question is yes, then the CWCB can consider a commitment in the CWP that there will be a statewide initiative to establish and adjudicate water for these habitats. I realize that this question is not a new one and that the CWCB has in the past discussed

the issue and may even have set a level of precedent for selected aquatic habitats. CPW should also have input regarding this issue.

My recommendation is to determine if current instream flow legislation does allow establishing of water levels to maintain wetlands and riparian habitats that are connected to stream and river water systems. As stated, if the answer is yes, then the CWP should define establishing such water levels and adjudicated water rights as a goal.

If the answer is no, then consideration should be given to amending existing legislation to enable that authority.

Sport fishing, especially on cold water streams and rivers, provides major recreational and economic benefits throughout much of Colorado, including Park County. It is important to protect the streams and rivers that make this possible. This sentiment is being expressed through public input into the CWP process.

Recommendation: Senior water rights can be donated, transferred and purchased to maintain adjudicated and mandated stream and river flows. Water releases from reservoirs can be made to increase flows, as evidenced by actions to maintain endangered fish species in the lower Colorado River.

The CWCB has an established program, including funding, to purchase senior water, as well as accept donations and transfers.

This option needs increased emphasis in the future, including a list of the most vulnerable streams and rivers which require supplemental flows. The same objective applies to certain wetlands and riparian habitats. Dedicated funding should be made available to expand emphasis in the future.

Recommendation: A considerable number of streams and rivers (CWCB data base) throughout Colorado have adjudicated minimum flows. Certain of these flows may be too low, during both summer and winter periods, to protect the fisheries, as well as the “natural environment to a reasonable degree.” Current flow determination technology is capable of developing better flow recommendations than what was possible over 20 years ago.

A goal of the CWCB and CWP should be to review (including annual workshop) the current list of adjudicated minimum flows for stream and rivers, as well as natural lakes, to determine if they are at adequate levels to protect the natural environment, including fisheries. If it is determined that revised flows, or water volumes, are necessary changes should be made.

Recommendation: Certain species currently listed as threatened, or endangered, under authority of the U.S. Endangered Species Act, or considered as declining, but not listed, may mandate flows in streams and rivers, as well as volumes of water in natural lakes, wetlands and riparian habitats. Fish species in the lower South Platte and tributaries that have declining populations are one example. The higher elevation Boreal Toad which depends on riparian and wetlands habitats remains in population decline. Cutthroat trout species, including the greenback, Colorado River and Rio Grande, are all subject to population decline in the future. At some point these species could be candidates for federal listing as threatened, or endangered, under the Endangered Species Act, or require action under other mandated federal and state programs.

Interstate water compact issues involve declining fish species and impacts to riparian and wetland habitats, as evidenced by the lower Colorado River and the silvery minnow in portions of the Rio Grande River in New Mexico. Other aquatic species besides fish species may also be an issue in the future.

Priority should be given within the CWP to establishing required stream and river flows, as well as protection of riparian and wetland habitats necessary for survival of these sensitive species. Once established funding **to monitor the results** of such action need to be assured. At this point in time the financial stability of Colorado Parks and Wildlife has serious problems, which will limit, or even preclude, expanded monitoring in the future. Federal wildlife agencies are even in worse condition.

Recommendation: Healthy watersheds is a stated goal of the CPW. Within the upper South Platte basin a major portion of the watershed is within lands administered by the U.S. Forest Service. Other lands including state, municipal and private are important parts of the watershed. If the upper basin should ever have a major fire it would have highly detrimental impacts to downstream water quality, wildlife and local economies that would take years to recover from.

Wildfire is a major and ongoing threat to the entire upper South Platte basin, as well as every other major watershed in Colorado. While the Governor, General Assembly and local governments have addressed the issue with some progress, I feel as a landowner in a high fire risk area of Park County, that there still remains a great deal that could be done to reduce the threat of wildfire, as well as control of established fires.

The CWP will hopefully address this issue in relation to water quality and watersheds.

Recommendation: The Colorado Department of Public Health and Environment (PHE) administers the Source Water Assessment and Protection Program. The Program (SWAP) is designed to protect public health in relation to drinking water and to identify and control sources of contamination. A basin water quality Protection Plan is one product of the Program. Implementation places strong emphasis on local input and control.

To their credit Denver Water in cooperation with PHE, Park County, Coalition for the Upper South Platte and others are in the process of developing a SWAP. The September 2013 publication prepared by Denver Water describes the process and objectives. If they have not already read the publication I would encourage CWCB staff, Board and roundtable members to read it. John Duggan, Source Water Assessment and Protection Coordinator with PHE has been provided very valuable assistance in the SWAP process. The U.S. Environmental Protection Agency also assisted, including valuable input at the local level.

If a SWAP is successfully completed for the upper South Platte basin it will be one tool to protect water quality in the future. It will also assist in protection of aquatic habitats. Maintaining water quality for limited water supplies will be a factor in closing the so call "gap."

Park County has taken initiative to fund studies that have developed baseline water quality data for surface water and underground water aquifers. Others entities have also developed similar data. Such data should be included in the CWP process in relation to water quality objectives for the upper South Platte basin. As a landowner with surface wells, I have baseline water quality data that are conclusive enough to determine contamination materials and sources should impacts occur in the future.

The final CWP should stress the importance of the SWAP process, which could apply to every watershed throughout Colorado that provides drinking water. Funding sources are required to implement a SWAP process, which may be expanded as one objective the final CWP.

Recommendation: Climate change, including both drought and increased levels of available water, over the long term will be one of the most major factors in determining how the CWP closes the gap by 2050 and well beyond. I am of the opinion that overall there will be considerably less water available for Colorado, primarily from snowfall, by 2050 in comparison to what now exists. If population growth projections do not consider and plan for such a scenario, there will be very serious consequences.

The CWCB and others have completed science based analysis on the issue and are including some level of consideration into the CWP. The final CWP should have strategies that deal with extended levels of drought in Colorado. Current and future political leaders, both at state and national levels, should take this threat very seriously. Certain legislation could be proposed which would address the impacts of climate change, included mandated conservation actions.

Recommendation: Oil and gas exploration and production is a major activity throughout major portions of Colorado and includes hydraulic fracking. This activity will extend well into the future. High volumes of water are required both in fracking, as well as other aspects of production. In certain areas sources of this water is very limited and there are examples where the industry has purchased water from cities, local governments and private sources for fracking and related production activities. Often such water is a consumptive use.

The CWP likely is considering the long term water demands for oil and gas production and what impact this will have in filling the 2050 gap. Advanced technology should be mandated to reduce this consumptive use of water.

A second example is in situ mining for uranium, that also requires high volumes of water should large scale mining occur. Portions of the upper South Platte basin does have documented high levels of uranium, as does other areas in Colorado.

Conclusion: My comments are extensive, but I did attempt to summarize what I feel are legitimate recommendations. I hope CWCB staff, Board members, and members of the roundtable take the time to read them.

Completion and implementation of the Colorado Water Plan (recognizing it is a living document) is a very important undertaking. I commend the efforts of all concerned.

If there are questions please let me know.

Thanks for the Fairplay presentation and opportunity for input.

Copies:

Senator Lois Trochtrop

Representative Steve Lebsock

County of Park, Board of County Commissioners

Colorado Parks and Wildlife

Park County Advisory Board on the Environment

U.S. Environmental Protection Agency

Colorado Department of Public Health & Environment

Coalition for the Upper South Platte

Colorado Wildlife Federation

National Wildlife Federation

Cover Sheet for Input Document, Item #26

The document listed 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: April 2, 2014

Input provided by: Dave Miller, Natural Energy Resources Company

Method of submission: Email sent to James Eklund, forwarded to cowaterplan@state.co.us

Summary of Input: Letter regarding "Colorado's ignored sustainable water and energy solutions"

Documents Submitted for Review: Comments in attached letter

Staff Response: Many of the concepts and motivations behind the commenter's proposal are similar to the latest IBCC work. However, to move the commenter's specific concept forward with modeling will require either the project proponent to model it on his own, or stakeholder support for it.

Allen D. (Dave) Miller
P. O. Box 567, Palmer Lake, Colorado 80133
719-481-2003 Fax 719-481-3452
centralcoloradoproject@comcast.net
www.centralcoloradoproject.us

April 30, 2014 (revised)

The Honorable John Hickenlooper
Governor of Colorado
136 State Capitol
Denver, Colorado 80203

Colorado Legislators
State Capitol Building
200 E. Colfax Ave. Rms. 271 & 346
Denver, Colorado 80203

Subject: Colorado's ignored sustainable water and energy solutions

Dear Governor Hickenlooper and Colorado Legislators:

Since 2003, Colorado has had over 400 water planners and numerous contractors engaged in a unique, basin-centric, statewide water planning process. Unfortunately, this costly experiment has failed to provide sustainable solutions for our headwater state's escalating renewable water shortage crises. In fact, Colorado's current Draft State Water Plan supports several ongoing farm and aquifer dry-up proposals, and transmountain reuse-to-extinction projects, that are threatening our state's economic and environmental future.

Recent public documents describe how Colorado's innovative, but ignored, high altitude multiple river basin pumped-storage options could soon provide high value peaking power needed to prevent Western blackouts, while increasing the productivity of limited water resources throughout multiple Southwestern river basins. Pumped-storage is also essential to achieve Colorado's 30% renewable energy goals from sporadic wind and solar operations.

Preliminary evaluations of Colorado's breakthrough Central Colorado Project (CCP) have confirmed its annual net peaking power revenues will substantially exceed its annual net water solutions costs throughout Colorado's five major river basins (*Gunnison, Rio Grande, Arkansas, South Platte, and Colorado*). Surplus revenues from CCP's Western blackout prevention capabilities can also be used to reduce Colorado's escalating utility and farm dry-up costs, while funding our state's neglected flood and forest fire control capabilities.

Unfortunately, Colorado's grass roots water planners have not had the vision and political courage needed to objectively evaluate and implement Colorado's breakthrough high altitude, multiple basin, pumped-storage solutions. Colorado's Executive and Legislative Branch leaders must correct our state's seriously flawed renewable water and energy planning process.

Sincerely,



Allen D. (Dave) Miller, strategic water and energy planner since 1986

Encls: Public Water & Energy Planning Documents, dated 4-7-14; 3-21-14; 3-27-14; & 1-8-14
cc: Colorado State Auditor; selected local, state, regional, and federal leaders and agencies

NATURAL ENERGY RESOURCES COMPANY

P.O. Box 567 • Palmer Lake, Colorado 80133
719-481-2003 • fax 719-481-3452
centralcoloradoproject@comcast.net
www.centralcoloradoproject.us

April 7, 2014 (revised)

Urgent Memo For: Colorado Springs Mayor Steve Bach; Council Members; and Jerry Forte

From: Allen D. (Dave) Miller  **regional renewable water and energy planner**

Subject: Overlooked Water, Energy, Flood, and Forest Fire Solutions

The enclosed documents explain how projected revenues from Central Colorado Project's (CCP) innovative high altitude, multiple river basin, pumped-storage operations could quickly reduce regional water and energy costs, while funding vital flood and forest fire control needs.

Unfortunately, Colorado Springs Utilities' (CSU) obsolete Southern Delivery System (SDS) Phase One pipeline, currently being constructed from USBR's flood-limited Pueblo Reservoir has, and will, substantially increase local water user costs. If and when SDS's proposed Phase Two terminal reservoirs are financed and constructed, all residential and business water rates could double every few years under today's expected slower growth scenarios.

In addition to SDS's escalating water user costs and ignored dam safety concerns, its inefficient fossil-fueled, pipeline pumping operation is being constructed to eventually use and reuse CSU's previously developed transmountain diversion rights to extinction. Although Colorado's unique transmountain reuse-to-extinction concept is technically allowed under an obscure 1969 Colorado water law, its long-term economic and environmental impacts can be devastating for down river farms, cities, states, and environments.

Curiously, none of SDS's major transmountain reuse-to-extinction impacts on Southeastern Colorado and down river states were properly evaluated by state and federal permitting agencies. This serious oversight is a major violation of National Environmental Policy Act (NEPA) rules. It is also compelling justification for an emergency Supplemental EIS modeling comparison of Southern Delivery System vs. Central Colorado Project.

In view of these facts, Colorado Springs Mayor, Council Members, and Utilities Director should immediately seek an emergency Supplemental EIS comparison of Southern Delivery System and Central Colorado Project. CSU's projected urgent needs for SDS were based primarily on a fast growth scenario from development of Banning Lewis Ranch, east of Colorado Springs. There may also be valid technical reasons to convert SDS's partially completed pipeline from Pueblo Reservoir into a cost-effective flood control facility for El Paso, Teller, and Pueblo Counties. Projected cash flows from Central Colorado Project's high value 3,000 megawatt peaking power operation for Western blackout protection needs can also be used to reduce local and regional utility costs, while funding neglected local flood and forest fire control capabilities.

Encls: Urgent Regional Water and Energy Planning Messages, dated 3-21-14, 3-27-14, 1-8-14
cc: Southeastern Colorado leaders & media; CO water planners; federal permitting agencies

NATURAL ENERGY RESOURCES COMPANY

P.O. Box 567 • Palmer Lake, Colorado 80133
719-481-2003 • fax 719-481-3452
centralcoloradoproject@comcast.net
www.centralcoloradoproject.us

March 21, 2014

Urgent Message For: Colorado Governor John Hickenlooper; Arizona Governor Jan Brewer; Arkansas Governor Mike Beebe; California Governor Jerry Brown; Idaho Governor C. L. "Butch" Otter; Kansas Governor Sam Brownback; Montana Governor Steve Bullock; Nebraska Governor Dave Heineman; Nevada Governor Brian Sandoval; New Mexico Governor Susana Martinez; North Dakota Governor Jack Dalrymple; Oklahoma Governor Mary Fallin; Oregon Governor John Kitzhaber; South Dakota Governor Dennis Daugaard; Texas Governor Rick Perry; Utah Governor Gary Herbert; Washington Governor Jay Inslee; Wyoming Governor Matthew Mead

From: Allen D. (Dave) Miller,  regional renewable water and energy planner

Subject: High altitude, pumped-storage solutions for Western clean water and energy needs

The enclosed U. S. Patent Abstract and Central Colorado Project (CCP) Schematic describe how innovative high altitude, multiple river, multiple state, pumped-storage projects could quickly solve escalating renewable water and energy shortage crises for highly variable western droughts, blackouts, growth, and climate change conditions.

In view of these major breakthrough capabilities, I respectfully suggest all western states unite with federal agencies to identify, evaluate, and develop such projects, as soon as possible.

After returning from this year's National Governors Association Conference in Washington, D.C., Governor Hickenlooper advised about 300 of Colorado's governor-appointed and volunteer water planners that federal agencies would support development of large renewable water and energy projects-- if western states agree on the projects to develop.

Natural Energy proudly offers its self funding Central Colorado Project (CCP) as a model renewable water and energy solution for all western states. I would be honored to give CCP briefings, when and where invited (*see CCP PowerPoint, etc. at www.centralcoloradoproject.us*).

Thank you for considering this urgent message in support of all western states.

Encls: U. S. Patent Abstract, dated 1-11-11; Central Colorado Project (CCP) Schematic

cc: Secretaries of Agriculture, Interior, and Energy; The White House; CEQ; EPA; USBR; USACOE; WAPA; Congressional Water and Energy Committees; Colorado Congressional Delegation and Legislators; Western Tribes; Western Governors Association; President of Mexico.



US007866919B2

(12) **United States Patent**
Miller

(10) **Patent No.:** **US 7,866,919 B2**
 (45) **Date of Patent:** **Jan. 11, 2011**

(54) **SYSTEM AND METHOD FOR CONTROLLING WATER FLOW BETWEEN MULTIPLE RESERVOIRS OF A RENEWABLE WATER AND ENERGY SYSTEM**

4,159,188 A 6/1979 Atencio
 4,192,627 A 3/1980 Casebow

(75) **Inventor:** **Allen David Miller, Palmer Lake, CO (US)**

(Continued)

(73) **Assignee:** **Natural Energy Resources Company, Palmer Lake, CO (US)**

FOREIGN PATENT DOCUMENTS

JP 57-131869 8/1982

(*) **Notice:** Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 295 days.

(Continued)

OTHER PUBLICATIONS

(21) **Appl. No.:** **12/102,651**

(22) **Filed:** **Apr. 14, 2008**

(65) **Prior Publication Data**
 US 2008/0253837 A1 Oct. 16, 2008

"Blenheim-Gilboa Pumped Storage Power Project," available at <http://www.nypa.gov/facilities/blengil.htm>, printed Jul. 13, 2010, copyright 1996-2010, 2 pages.

Primary Examiner—Tara Mayo-Pinnock
 (74) *Attorney, Agent, or Firm*—Sheridan Ross P.C.

Related U.S. Application Data

(60) **Provisional application No. 60/911,451, filed on Apr. 12, 2007.**

(51) **Int. Cl.**
E02B 9/02 (2006.01)
E02B 13/00 (2006.01)

(52) **U.S. Cl.** 405/80; 405/51; 405/53; 405/75

(58) **Field of Classification Search** 405/36, 405/51-53, 55, 75, 80; 210/747, 170.01
 See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

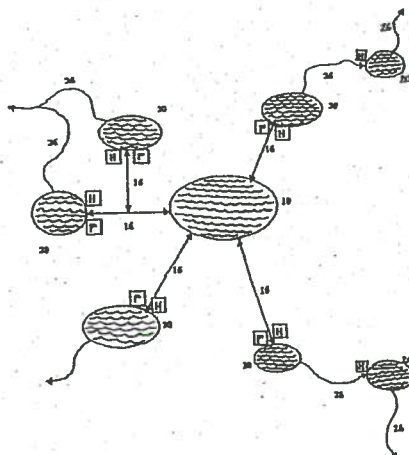
2,962,599 A 11/1960 Pirkey
 3,863,605 A * 2/1975 Gallup 119/229
 3,939,356 A 2/1976 Loane
 4,109,160 A 8/1978 Goto et al.
 4,117,685 A * 10/1978 Skaife 405/36
 4,132,901 A 1/1979 Crausbay

(57)

ABSTRACT

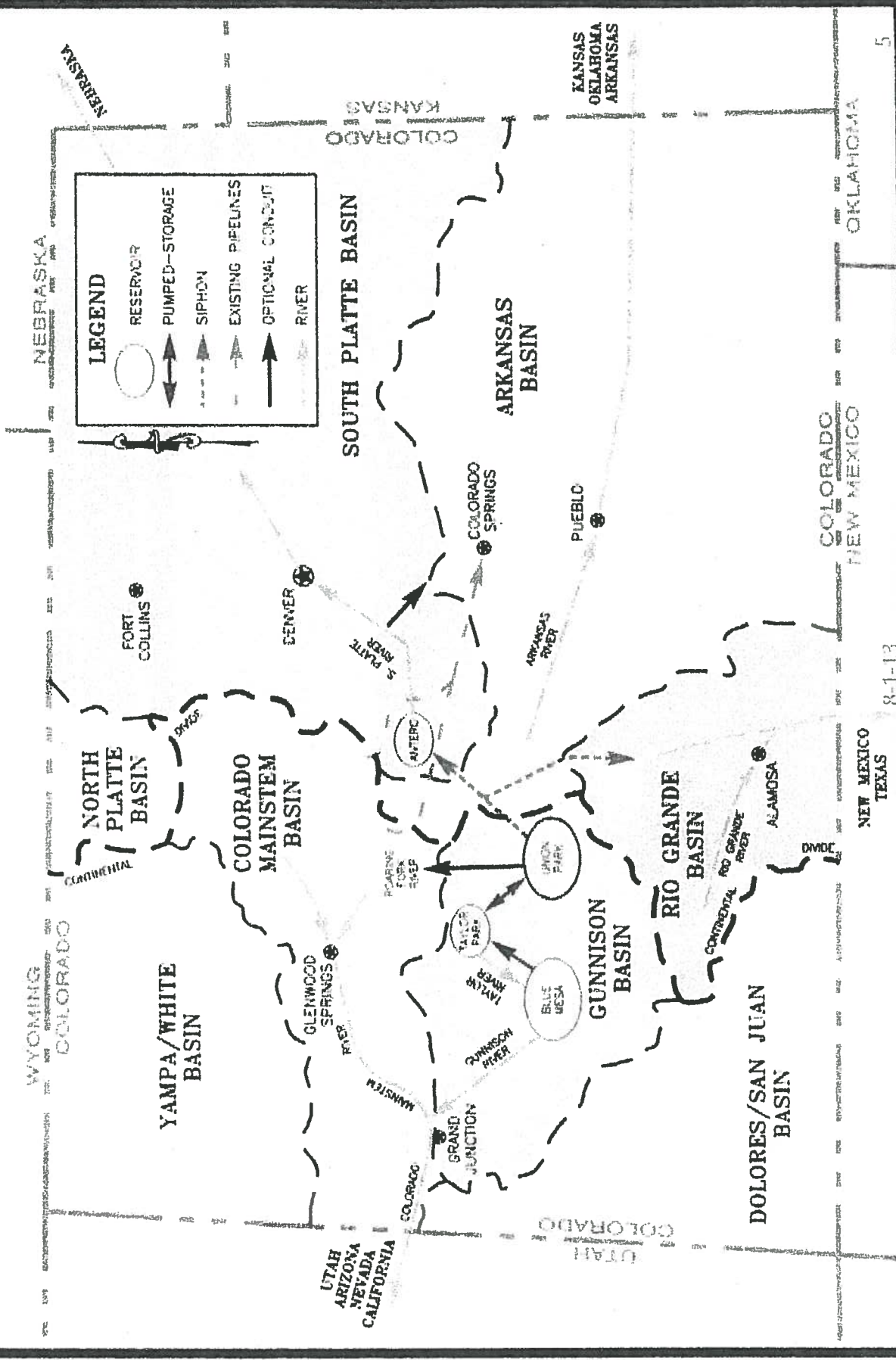
A high altitude pumped-storage system for selectively integrating, storing, and distributing water and energy to increase the regional productivity of existing and future water and energy resources throughout multiple river basins is disclosed. This system addresses in part the increased requirement of supplying energy demands from a renewable energy source, such as wind, solar, or water generated power. The system includes at least one primary reservoir connected to multiple secondary reservoirs by conduits. The system allows for selectively distributing water and energy between secondary reservoirs and at least one primary reservoir. The system may comprise one or more hydroelectric power generation facilities. A method for increasing the regional efficiency of existing and future systems for producing, storing, and delivering energy from sources such as hydroelectric, wind and solar power from the water collected by the system described herein is also disclosed.

16 Claims, 4 Drawing Sheets



SCHEMATIC OF CENTRAL COLORADO PROJECT (CCP)

Colorado's optimal State Water Plan



NATURAL ENERGY RESOURCES COMPANY

P.O. Box 567 • Palmer Lake, Colorado 80133
719-481-2003 • fax 719-481-3452
centralcoloradoproject@comcast.net
www.centralcoloradoproject.us

February 6, 2014 (revised 3-27-14)

Urgent Public Comment For: Governor John Hickenlooper; Mike King, Executive Director, Dept. of Natural Resources; John Stulp, Special Policy Advisor to the Governor For Water, and Director of Interbasin Compact Committee; all governor-appointed IBCC members; James Eklund, Director, Colorado Water Conservation Board; all governor-appointed CWCB members; Tonug Deora, Executive Director Governor's Energy Office; all governor-appointed Colorado Water Resources and Power Development Authority (CWRPDA) members; all volunteer Basin Roundtable chairs and members; all Water Court-appointed River Conservation/Conservancy District members; all consultants and contractors involved with preparing Colorado's State Water Plan; Colorado's Congressional Delegation; Colorado Legislators; Colorado State Auditor; CO Counties Inc.; CO Municipal League; CO Water Court Committee; CO Water Congress; CO Foundation for Water Education.

From: Allen D. (Dave) Miller,  regional renewable water and energy planner

Subject: Colorado's fatally-flawed Draft State Water Plan

Your recent decisions to exclude all new transmountain alternatives from Colorado's initial **Draft State Water Plan**, while promoting harmful transmountain reuse, farm dry-up, and aquifer depletion alternatives, is potentially the most damaging economic and environmental travesty in our state's history. Please consider the following **Colorado State Water Plan facts**:

Fact No. 1 Colorado is the only western state that has never developed and maintained a professional State Water Plan, in close coordination with federal permitting and funding agencies, to guide its vital statewide water development decisions;

Fact No. 2 Colorado's 1937 Legislature established our state's governor-appointed, basin-oriented, Colorado Water Conservation Board (CWCB) to primarily ... *plan, protect, and develop Colorado's interstate entitlements for current and future generations*;

Fact No. 3 Soon thereafter, 52 tax-funded Water Conservation/Conservancy Districts were formed to protect local interests of major Colorado river basins on both sides of the Divide;

Fact No. 4 Colorado's 1982 Legislature also authorized our state's governor-appointed **Colorado Water Resources and Power Development Authority (CWRPDA)** to primarily help Colorado plan, fund, and develop both large and small water and energy projects, that would beneficially use Colorado's entitled, unused, and vulnerable interstate waters;

Fact No. 5 U. S. Department of Interior's periodic Colorado River Consumptive Uses & Losses Reports clearly indicate Colorado's water planners have failed to develop and beneficially use about 30% of Colorado's annual 3.87 million acre-feet legal share of the Colorado River;

Fact No. 6 “USE IT or LOSE IT” is the most fundamental water law of the West. Colorado’s divided water planners have ignored this reality, regarding unused Colorado River rights;

Fact No. 7 Colorado is fortunate to be the primary headwater state and renewable water source for our nation’s arid Southwestern Region on both sides of the Continental Divide;

Fact No. 8 About 85% of Colorado’s water originates on the west side of the Divide, and about 85% of Colorado’s population, irrigated farms, water needs, and expected growth, are east of the Divide. This means Colorado’s most vital water planning decisions and solutions have, and should continue to involve, major transmountain diversion projects to benefit both slopes;

Fact No. 9 From 1987 to 1990, Colorado’s Water Resources and Power Development Authority (CWRPDA), and the U. S. Bureau of Reclamation (USBR), jointly evaluated 19 large Gunnison transmountain diversion projects, as part of CWRPDA’s major Upper Gunnison-Uncompahgre Basin Feasibility Study. An update of USBR’s detailed cost per acre-foot comparisons would clearly confirm several of these potential Gunnison transmountain alternatives are superior to all transmountain reuse, farm dry-up, and aquifer depletion alternatives currently being included in Colorado’s Draft State Water Plan (*see USBR’s attached 2 page Summary*);

Fact No. 10 As indicated in USBR’s *Gunnison Transmountain Study Summary*, all of its proposed Aspinall Marketable Pool alternatives from USBR’s Blue Mesa Reservoir are substantially superior, both economically and environmentally, to the transmountain reuse alternatives currently being constructed for Metros Denver and Colorado Springs;

Fact No. 11 Congress authorized USBR’s Aspinall Reservoirs in 1956, primarily to help Colorado develop 300,000 acre-feet of its unused Colorado River Rights for statewide needs. Colorado Supreme Court Decision 98SA327 recently confirmed this overlooked and unfulfilled reality;

Fact No. 12 EPA wisely vetoed Metro Denver’s twenty-year Two Forks Dam Project, primarily because: *...superior water sources were improperly screened from the environmental studies (i.e. Colorado’s untapped Gunnison and Yampa branches of the Colorado River)*. Chips Berry and Dave Miller were the only outsiders invited to EPA’s Atlanta Office, when and where EPA’s Two Forks Veto Statement was drafted. They were also the only outsiders invited to the Environmental Community’s Two Forks Veto Party in Denver;

Fact No. 13 Although never officially recognized by Colorado’s Legislative and Executive Branches, CWCB and CWRPDA’s legal mandates to “*plan, protect and develop Colorado’s interstate rights*” were largely compromised during 1990, when Colorado’s State Engineer and CWCB Director were both suddenly fired on the same day, without any public explanation. CWRPDA’s and USBR’s cooperative Upper Gunnison Phase 2 Study of 19 viable Gunnison Transmountain Alternatives was also abruptly cancelled before publication, without any public explanation. USBR was forced to reprogram one million dollars within its FY 1990 budget;

Fact No. 14 Since 1990, CWCB has been heavily involved with several questionable study initiatives, and Colorado’s unique grassroots, basin-centric, water planning processes that have failed to solve Colorado’s escalating water shortages, farm dry-ups, and high costs;

Fact No. 15 Since 2007, Colorado's water planners have intentionally stonewalled Natural Energy's breakthrough, U. S. Patented, multibasin, pumped- storage solution for Colorado and its down river states (*Utah, Arizona, Nevada, California, New Mexico, Texas, Kansas, Oklahoma, Arkansas, Nebraska*). This project is called: **Central Colorado Project (CCP)**;

Fact No. 16 Within a few months, cooperative state-federal modeling can confirm projected annual net revenues from CCP's high value, 3,000 megawatt, pumped-storage operation for western blackout protection needs will exceed CCP's breakthrough water supply costs throughout Colorado's five major river basins (*Gunnison, Rio Grande, Arkansas, South Platte, and Colorado*) and down river states, on both sides of the Divide (*See Natural Energy's 32 slide PowerPoint Briefing at www.centralcoloradoproject.us*). CCP's net annual cash flows can also be used to reduce regional utility costs and provide funds for neglected regional flood and forest fire control needs;

Fact No. 17 Curiously, Colorado is the only western state that has never formulated and maintained a professionally prepared State Water Plan, in close coordination with federal permitting and funding agencies, to guide its vital water development decisions for current and future generations. In contrast, Colorado's water planners are largely part-time, non-professional volunteers, representing limited local and self interests;

Fact No. 18 Good science and National Environmental Policy Act (NEPA) rules clearly require objective modeling and scoping comparisons of all reasonable alternatives, when considering major water planning and development decisions. Preliminary modeling of Central Colorado Project's unique water and energy solutions for Colorado and its downriver states could be completed within a few months, if given a high priority by responsible state and federal leaders;

Conclusion As our nation's primary headwater state, Colorado is fortunate to have the snow melt and innovative high altitude, multiple river basin, pumped-storage sites needed to quickly solve escalating renewable water and energy shortage crises, throughout Colorado and our nation's arid Southwestern Region on both sides of the Continental Divide. Unfortunately, Colorado also has hundreds of volunteer water planners and over 70% of our nation's water lawyers, who have vested interests in maintaining their state's artificial water shortages, inflated water right values, and gridlocked water planning process. Now, after a costly 10 year grass roots water planning process, as directed by Colorado's Legislature, Colorado's governor-directed **Draft State Water Plan** will not include any new statewide and regional solutions, when published this December. Colorado's Executive and Legislative Branches should immediately unite behind an emergency western state and federal program to model, plan, and develop innovative high altitude multiple river basin pumped-storage projects. Such projects are urgently required to solve the Western Region's escalating renewable water and energy shortage crises for highly variable drought, growth, and climate change conditions.

Encl: USBR's Gunnison Transmountain Diversion Alternatives Summary Sheet

cc: Secretaries of Interior, Energy, and Agriculture; EPA; USBR; USACOE; The White House; CEQ; Western governors; Congressional Committees; selected business, education, and environmental leaders.

Transmountain Diversion Alternative Summary Sheet

Alternative Description

Alternative Description	Annual Cost/AF w/ 90% Tunnels	Annual Cost/AF w/ 80% Tunnels	Annual Cost/AF w/ 70% Tunnels	Annual Cost/AF w/ 60% Tunnels	Annual Cost/AF w/ 50% Tunnels
ALTERNATIVE #1 (60,000 AF/yr) Transmountain Diversion from Taylor Park to Arkansas R., gravity delivery system following Buena Vista Route.	\$534	\$486	\$390	\$342	\$295
ALTERNATIVE #2 (60,000 AF/yr) Transmountain Diversion from Taylor Park to S. Platte R., gravity delivery system following Buena Vista Route.	\$902	\$834	\$698	\$630	\$563
ALTERNATIVE #3 (60,000 AF/yr) Transmountain Diversion from Taylor Park to Arkansas R., pump lift from Taylor Park, following Buena Vista Pump Route.	\$337	\$318	\$280	\$261	\$242
ALTERNATIVE #4 (60,000 AF/yr) Transmountain Diversion from Taylor Park to S. Platte R., pump lift from Taylor Park, following Buena Vista Pump Route.	\$655	\$633	\$589	\$567	\$545
ALTERNATIVE #5 (210,000 AF/yr) Pump lift from Blue Mesa to Taylor Park, transmountain diversion from Taylor Park to Arkansas R., gravity delivery system following Buena Vista Route.	\$441	\$422	\$382	\$362	\$343
ALTERNATIVE #6 (210,000 AF/yr) Pump lift from Blue Mesa to Taylor Park, transmountain diversion from Taylor Park to S. Platte R., gravity delivery system following Buena Vista Route.	\$648	\$619	\$590	\$532	\$503
ALTERNATIVE #7 (210,000 AF/yr) Pump lift from Blue Mesa to Taylor Park, transmountain diversion from Taylor Park to Arkansas R., pump lift from Taylor Park following Buena Vista Pump Route.	\$387	\$380	\$364	\$357	\$349
ALTERNATIVE #8 (210,000 AF/yr) Pump lift from Blue Mesa to Taylor Park, transmountain diversion from Taylor Park to S. Platte R., pump lift from Taylor Park following Buena Vista Pump Route.	\$505	\$494	\$474	\$463	\$453
ALTERNATIVE #9 (60,000 AF/yr) Transmountain Diversion from Taylor Park to Arkansas R., pump lift from Taylor Park, following North Route.	\$556	\$510	\$417	\$370	\$324
ALTERNATIVE #10 (60,000 AF/yr) Transmountain Diversion from Taylor Park to S. Platte R., pump lift from Taylor Park, following North Route.	\$746	\$685	\$564	\$503	\$442
ALTERNATIVE #11 (210,000 AF/yr) Pump lift from Blue Mesa to Taylor Park, transmountain diversion from Taylor Park to Arkansas R., pump lift from Taylor Park following North Route.	\$460	\$441	\$402	\$383	\$364
ALTERNATIVE #12 (210,000 AF/yr) Pump lift from Blue Mesa to Taylor Park, transmountain diversion from Taylor Park to S. Platte R., pump lift from Taylor Park following North Route.	\$550	\$525	\$475	\$450	\$425

Alternative Description	Annual Cost/AF				
ALTERNATIVE #13 *(120,000 AF/yr) Union Park Water Supply Project,	\$875	\$836	\$798	\$760	\$721
					\$683
ALTERNATIVE #14 (73,100 AF/yr) Collegiate Range Project,	\$833	\$776	\$718	\$661	\$603
					\$546
ALTERNATIVE #15 (73,100 AF/yr) Collegiate Range Project w/o Almont Dam,	\$831	\$773	\$716	\$658	\$601
					\$543
ALTERNATIVE # 16 (210,000 AF/yr) Pump lift from Blue Mesa to Tomichi Creek Tunnel, transmountain diversion to Arkansas R., following S. Arkansas R. Route,	\$405	\$387	\$368	\$350	\$331
					\$313
ALTERNATIVE # 17 (60,000 AF/yr) Pump lift from Blue Mesa to Tomichi Creek Tunnel, transmountain diversion to Arkansas R., following S. Arkansas R. Route,	\$723	\$679	\$634	\$589	\$545
					\$500
ALTERNATIVE # 18 (210,000 AF/yr) Pump lift from Blue Mesa to Monarch Tunnel, transmountain diversion to Arkansas R., following S. Arkansas R. Route,	\$358	\$348	\$338	\$328	\$318
	----	---	----	----	----
ALTERNATIVE # 19 (60,000 AF/yr) Pump lift from Blue Mesa to Monarch Tunnel, transmountain diversion to Arkansas R., following S. Arkansas R. Route,	\$623	\$594	\$565	\$536	\$508
					\$479

* NRI benefit based on NEDD concept of wet year storage with dry year deliveries. Actual amount of annual storage in Union Park Reservoir equals 60,000 AF.

Added Note These USBR Summary Sheets show 8 of USBR's 19 Gunnison Transmountain Alternatives evaluated for CWRPDA's unpublished Upper Gunnison-Uncompahgre Basin Feasibility Phase 2 Study Report, would have provided an average annual 210,000 acre-feet of USBR's 300,000 acre-feet Aspinall Marketable Pool Water Rights, for Colorado's Front Range growth and drought protection needs. An objective update of these cost estimates with today's much lower 50 year financing costs would confirm these alternatives are still economically and environmentally superior, to all Transmountain Reuse Alternatives currently being constructed and/or planned for Metros Denver and Colorado Springs. Please also note Natural Energy's proposed high altitude Taylor Park-Union Park Pumped-storage Transmountain Alternative No. 13 would have increased Metro Denver's average annual water supply by 120,000 acre-feet, with an average annual diversion of only 60,000 acre-feet from the Upper Gunnison Basin's Taylor River. Please also note that Union Park's high value peaking power revenues from its Taylor Park-Union Park pumped-storage operation for Western brown and blackout protection needs were not included in USBR's water supply evaluations for Front Range drought and growth needs. Copies of USBR's detailed sheets for each Gunnison Transmountain Diversion Alternative evaluated can be obtained from CWRPDA at 303-830-1550, or USBR at 970-248-0641. *4/27/02*

The Pueblo Chieftain

Roundtable fears more farm dry-ups could be in store

BY CHRIS WOODKA The Pueblo Chieftain

Published: January 8, 2014; Last modified: January 9, 2014 04:00AM

A state water plan that fails to look at every option would put Arkansas Valley farms at risk.

The Arkansas Basin Roundtable wants more emphasis on increasing storage and finding new water supplies in order to stop raids on agricultural supplies.

However, the reluctance of the Western Slope to budge on those issues could doom the Arkansas Valley to more farm dry-ups as Colorado rushes to adopt a water plan.

"It's frustrating as hell," said Jay Winner, the general manager of the Lower Arkansas Valley Water Conservancy District who represents the roundtable on the state Interbasin Compact Committee. "There are five or six people (on the IBCC) who just want to maintain the status quo." Jeris Danielson, general manager of the Purgatoire River Conservancy District and the basin's other IBCC representative, called a draft planning document "polysyllabic piffle" that prevents progress.

"If you read it, it's all slanted to make sure no new projects happen," Danielson said.

Winner suggested that a year like 2011, where snow hit near record levels in the Colorado River basin and drought began in the Arkansas River basin, could have been a starting point for discussions about maximizing use of existing projects.

"It's all a big stall on the Western Slope," Winner said.

Instead, the state has limited discussion of new projects or expanded storage.

Roundtable Chairman Gary Barber said the Flaming Gorge Task Force, a process that involved all of the nine basin roundtables talking about statewide water projects, addressed many of the same issues the state wants to talk about in Gov. John Hickenlooper's proposed water plan.

But that work was stopped short in 2012 by the Colorado Water Conservation Board.

Failing to consider new sources of supply or more storage would only increase pressure on municipal purchases of farm water in the Arkansas Valley, said Jim Broderick, executive director of the Southeastern Colorado Water Conservancy District. No one disagreed.

"The basin should be saying not one drop, like the Western Slope," said Reeves Brown, a Beulah rancher and Lower Ark board member who has pushed for putting a higher public value on ag water. "We ought to be able to defend our water."

Keeping ag water in the Arkansas Valley also benefits tourism by keeping flows in the river, said Chaffee County Commissioner Dennis Giese.

"We need this river to run through our valley," Giese said. cwo...@chieftain.com

Cover Sheet for Input Document, Item #27

The document listed 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: April 2, 2014

Input provided by: Bart Miller, Western Resource Advocates

Method of submission: Online General Input Webform at www.coloradowaterplan.com

Summary of Input: Webform comment as follows: "Please see the attached document -- labeled "March 18 CWCB board meeting" -- which are talking points for the short comments I provided at the recent board meeting. -- Thanks"

Documents Submitted for Review: Comments in attached letter

Staff Response: Staff appreciates Western Resource Advocates' comments. Concerning further detailing the "gap", the Basin Implementation Plans should allow for greater detail. The Best Management Practices provided by WRA and other conservation groups were passed on to the BRTs and the initial draft Chapter 5.6 explores conservation and reuse. Colorado's Water Plan suggests that at a minimum and in the near term, Colorado should seek to implement "medium" conservation practices while acknowledging that in the future "high" levels of conservation may be needed depending on which scenario presents itself in Colorado.

Introduction

My name is Bart Miller; I'm water program director at Western Resource Advocates. Along with Conservation Colorado and many other groups, we take Colorado's Water Plan very seriously, as an important and collective task. We appreciate being able to work with your excellent staff and address you here today.

I'd like to touch on three issues briefly today—defining the gap, urban conservation, and re-use.

Defining/refining the Gap

1. The “gap” (perhaps first noted as such in 2004 version of SWSI) is not a monolithic thing, but rather a comparison between water demands and supply for specific parts of the State over a specific period of time.
2. Colorado's Water Plan should nail down the specifics: explaining the purpose, need, and timeframe for the anticipated new water demands, including underlying population projections from DOLA that are no less than three years old.
3. **If we identify that three counties in Colorado – e.g., Weld, Douglas, and Northern El Paso – have the largest “gap” or earliest need, we can fine-tune solutions to meet those needs.**
4. In short: Refining the gap will help meet the gap.

Conservation

1. Conservation (demand management) is the original “no-regrets” strategy. Lowering levels of use decreases our need to obtain new supplies (from whatever source).
2. We can help make the load lighter by targeting the CWCB's “high” conservation strategy, as spelled out in SWSI 2010 and technical advisory committee documents. This equates to roughly a 1%/year decrease in per capita demands over the next few decades; which would continue the trend we've already seen in many Colorado communities over the past dozen years or more.
3. **Assuming 60% of active conservation savings achieved under CWCB's “high” conservation strategy are applied to meet new demands, it would decrease state-wide water needs by more than 200,000 AF by 2050.**
4. Along with setting a “high” target, Colorado's Plan can rely on existing state statutes and bolster technical and financial assistance to communities across the State to update their conservation plans and, even more importantly, implement conservation measures (everything from pricing, leak-detection and repair, to lowering the water footprint of new urban development).
5. Along with our partners, we compiled a list of conservation Best Management Practices – and submitted them to Jacob on your staff who agreed to forward to all the basin roundtables.

Re-use

1. Conservation manages demand, where re-use increases supply from developed water sources.
2. CO water law articulates specific types of water that can be re-used.
3. **Re-use in the Front Range could reach over 200,000 AF per year by 2050.**

4. The Front Range is already a leader on re-use: Colorado Springs brought on-line one of first direct non-potable re-use systems in the country; Aurora's Prairie Waters Project got up-and-running in just a few years.
5. Utilities are already planning major re-use projects across the Front Range: e.g., Pikes Peak Area Council of Governments now has goal of utilizing 100% of reusable supplies.
6. Re-use has lost its negative stigma; it is now recognized as a viable part of the solution.

Some more details on re-use:

South Platte/Metro Basins Reuse

Levels ultimately could exceed 500,000 acre-feet per year

Reuse Plans for 2050:

Denver Metro: 184,300 acre-feet per year

Reuse Opportunities North of Denver: 15,000 acre-feet per year

Total: 199,300 acre-feet per year

Arkansas Basin Reuse

Planned: 27,500 acre-feet per year

Further Opportunities: 19,000 acre-feet per year

Total: 46,500 acre-feet per year

THANK YOU again for your attention to Colorado's Water Plan, and for the excellent staff you work with to help bring the Plan into being.

Sincerely,

A handwritten signature in black ink that reads "Bart P. Miller". The signature is written in a cursive, flowing style.

Bart Miller,

Water Program Director

Western Resource Advocates

Cover Sheet for Input Document, Item #28

The document listed 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: April 3, 2014

Input provided by: James Lochhead, Front Range Water Council

Method of submission: Letter to John Stulp, Rebecca Mitchell, and Jacob Bornstein; forwarded to cowaterplan@state.co.us

Summary of Input: Letter regarding the "New Supply Discussion"

Documents Submitted for Review: Comments in attached letter

Staff Response: Comments from the FRWC regarding the work of the BRT Chairs has been helpful. The letter was provided to the chairs and they plan on responding that the work was conceptual in nature. The CWCB appreciates the participation of the FRWC in furthering these discussions at the IBCC meetings.



1600 West 12th Avenue
Denver, CO 80204-3412

April 3, 2014

Mr. John Stulp
Ms. Rebecca Mitchell
Mr. Jacob Bornstein
Colorado Water Conservation Board
1313 Sherman Street, Room 720
Denver, CO 80203

Re: New Supply Discussion

Dear John, Rebecca and Jacob:

The members of the Front Range Water Council (FRWC) include Denver Water, Aurora Water, Colorado Springs Utilities, Northern Colorado Water Conservancy District, Pueblo Board of Water Works, Southeastern Colorado Water Conservancy District, and the Twin Lakes Reservoir and Canal Company. We are responsible for providing a reliable supply of water to over eighty percent of the state's population and to the businesses within our service territories that produce a large portion of the state's total economic output. Thus, we have been, and will continue to be, active participants in the HB 1177 Roundtable process, with specific reference to the initiatives of the Metro, South Platte and Arkansas Roundtables. In addition, we are involved in the public processes for the preparation of the Colorado Water Plan.

The FRWC has reviewed the recently circulated meeting notes from the March 17, 2014 "All-Chairs Conference Call" and applaud the effort to advance a cooperative dialogue on "new supply" development. We support an approach that is clearly articulated and easily understood by all involved interests. We also agree that some of the concepts discussed during the Flaming Gorge Task Force effort may be valuable in fashioning a workable solution.

That being said, the FRWC has significant concerns with regard to certain "steps" outlined in the meeting notes. The following excerpts from the notes highlight our concerns:

- Goal—"To give water providers an indication that there is hope for new supply (if they do their part), allowing them to reduce buy-and-dry of agriculture."

- “Completion of these milestones [underground storage and medium levels of conservation] leads to 50 KAF of water being available for new supply development.”
- “Completion of these tasks [East Slope water bank and high levels of conservation] leads to 150 KAF of water being available for new supply development.”
- “Achievement of all of these milestones leads to an agreement for new supply development....”

Whether the above steps are characterized as “sequencing” or a “stacking strategy,” the FRWC members who participate in the IBCC made it clear at the March 25th IBCC meeting that “all” of the pieces of the puzzle, i.e., all four legs of the stool, must be pursued simultaneously, not sequentially. This approach provides confidence that Colorado River water supply development will be available for the East Slope, thereby reducing the East Slope need to implement agricultural to urban water transfers, which is consistent with long-standing goals of the Roundtables and the IBCC. We are not saying that “ground must be broken” on a new supply project in the next few years, but rather that the planning process should begin with an assurance, and not simply a hope, that a new supply project will, in fact, be a fundamental part of the total “filling the gap” package.

In addition, the FRWC believes it is premature to quantify any specific increments of water as “being available” to the East Slope for new supply development. It is certainly possible that the risk management strategies and risk allocation understandings identified by the parties will reduce or eliminate the need to further quantify water availability and to arbitrarily cap future water supplies. However, at the very least, issues surrounding such questions as which Slope should potentially have a “carve-out,” who bears the risks associated with climate variability and future permitting, and how a “Colorado” resolution fits with a “big river” multi-state agreement, needs to be first explored as part of the discussion regarding water availability.

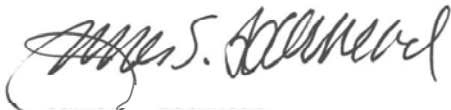
The concept of an agreement that allows East Slope entities to move “non-headwaters” supplies to the East Slope through exchange is one potential approach for new supply development that is identified in the meeting notes. However, in the referenced Arkansas BIP Section 4.8 language, this approach is directed toward curtailing the trans-mountain diversions of *existing* projects, and the Twin Lakes Project is specifically identified as a candidate for reduced diversions. This concept is cause for great concern for the FRWC members, as this concept could involve curtailing the diversions of long-established projects that in some instances (e.g., the Twin Lakes Project) have been providing efficient, cost effective, and reliable water supplies to the East Slope for about 80 years. Under this concept, a portion of the water derived from these efficient, low cost diversions could be replaced with high cost supplies requiring new infrastructure with substantially increased energy consumption and operating

Stulp, Mitchell and Bornstein
April 3, 2014
Page 3

costs. The FRWC supports the “non-headwaters” concept for the new supply discussions, *but does not support this concept as a substitute for existing water supply projects.*

The FRWC hopes that you find this input of value for your discussions and it requests that you consider our concerns in developing any next steps. Please contact either Mark Pifher or Joe Stibrich, or any other Council members, if you would like to discuss these comments in additional detail.

FRONT RANGE WATER COUNCIL



James S. Lochhead

Cc: Arkansas, Metro and South Platte Roundtable Chairs

Cover Sheet for Input Document, #29

The document listed 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: April 4, 2014

Input provided by: Melinda Kassen, on behalf of several conservation organizations listed in the summary

Method of submission: Email to Kate McIntire, forwarded to cowaterplan@state.co.us

Summary of Input: The attached document details some best practices that several conservation organizations put together and asked us to send to the Basin Roundtables. The participating organizations include Western Resource Advocates, Environmental Defense Fund, Conservation Colorado, and several other NGO's. They relied upon the IBCC letter to the Governors and No/Low Regrets strategies to extract this list of best practices.

Documents Submitted for Review: Comments in attached document

Staff Response: The CWCB appreciates the efforts of Conservation Colorado and other non-governmental organizations in putting together these Best Management Practices. These were sent to the BRTs for consideration.

Table of Contents

Best Management Practices (BMPs) for Basin Implementation Plans (BIPs)

ISSUE	PAGE #
Conservation	2-3
Re-Use	4-5
Alternatives to Ag Transfers	6
Non-consumptive Needs	7-8
Structural Projects	9-10
“Criteria”	10-13

Conservation in BIPs

1. Encourage establishment of a statewide conservation goal, with intermittent benchmarks, to reduce municipal water use 600,000 acre-feet by 2050. This is SWSI 2010's "high" conservation scenario and is equivalent to reducing 2010 per capita use 35% by 2050.
2. Prepare water conservation plans (local or regional) according to the CWCB guidance document, ensure the plan is approved, and seek grant funding for implementation of programs.
 - a. Demonstrate how local providers will meet the "high" level of conservation savings articulated in SWSI 2010 (see best practices at end).
3. Report data from all covered entities according to HB 1051 guidelines through CWCB data portal.
4. Develop and integrate land use practices that reduce water consumption through means such as density bonuses, expedited permitting, tax incentives, reduced tap fees, updated codes, comprehensive plans with a water element, and regional collaboration.
5. Support state requirements for efficiency standards that meet or exceed indoor and outdoor WaterSense specifications for all new construction, landscape installation, and major renovation that requires building permits.
6. Require or incentivize minimum conservation levels (e.g., conservation oriented rate structures, maximum amount of turf grass allowed per residential lot, maximum per capita use rates, or water efficient irrigation and landscape standards) as a prerequisite to development of new supply projects or additional agricultural transfers.
7. Prepare and implement water use reduction and conservation plans for local government agencies to reduce water demand by X% by (date certain) and annually report on their progress in annual budget requests.
8. Consider implementation of real estate point-of-sale legislation applicable to commercial and residential sales.
9. Support development of professional education and certification programs to require landscapers and plumbers to receive training or certification in conservation practices and technologies.
10. Implement education and outreach efforts that produce a culture of conservation by reaching out to the public and local decision-makers, and tracking changes in public attitudes.
11. Investigate and discuss potential improvements in agricultural water use efficiency and whether such changes will create conserved water to redirect towards other beneficial uses.

SEE NEXT PAGE

Best Practices to Reach High Conservation Scenario (from SWSI 2010 Conservation Strategies report and Colorado WaterWise Best Practices Manual)

System-wide Measures

1. Integrated resources planning
2. Water Loss measurement via AWWA M36 Manual, and loss reduction programs
3. Conservation-oriented water rates, including water budgets
4. Conservation-oriented tap fees
5. Smart metering with leak detection

Residential Indoor Measures

1. Conservation-oriented plumbing and building codes, green building, and rules for new residential construction
2. High efficiency toilets, clothes washers, faucets, and commercial, industrial, and institutional equipment (codes, ordinances, or incentives)
3. Sub-metering new multi-family housing
4. Reducing customer-side leakage

Nonresidential Indoor Use

1. Conservation-oriented plumbing and building codes, green building, and rules for new nonresidential construction
2. High efficiency toilets, urinals, clothes washers, faucets, and showers (codes, ordinances, or incentives)
3. Specialized nonresidential surveys, audits, and equipment efficiency improvements
4. Elimination of single-pass cooling in HVAC towers

Outdoor Use

1. Land use ordinances, codes, and regulations affecting new construction
2. Targeted audits for high demand landscape customers
3. Irrigation efficiency improvements
4. Landscape transformation of some high water requirement turf to low water requirement plantings
5. Incorporation of grey water and/or rainwater to urban irrigation supply

Re-Use in BIPs

1. Improve Quantification, Planning and Tracking of Existing, Planned and Potential Reuse
 - a. Utilize SWSI, water conservation and water supply masters plans, and other efforts to better identify existing and planned reuse projects.
 - b. Evaluate reuse potential of both existing and future water supplies, e.g. consumptive use portion of agricultural rights owned but not yet changed to municipal use.
 - c. Assess existing and planned reuse against reuse potential.
2. Incorporate understandings of limitations in sharing and fully consuming reuse water.
3. Consider all reuse options. Communities that only consider a limited range of reuse options may underestimate reuse potential, e.g., if reclaimed water is only used to irrigate town parks and ball fields, the supply may not be optimized. Reuse can be increased, especially looking to the future, by considering the full range of reuse options, including:
 - a. Indirect, through exchange
 - b. Direct, including potable and non-potable (irrigation, industrial, etc.)
4. Utilize existing resources such as as WaterReuse Colorado and the RMSAWWA/RMWEA Joint Reuse Committee (Rocky Mountain Section American Water Works Association/Rocky Mountain Water Environment Association) which are comprised of reuse professionals (utilities, consultants, researchers), many with reuse programs in place.
5. Develop BIPs that incorporate reuse (especially for 3 Fr Range BRTs), including opportunities for regional reuse projects utilizing existing, planned, new, or transferred water supplies, taking into account water quality concerns, needed storage and other infrastructure, Consider also , impacts of reuse of existing supplies on agriculture.

Establish a Statewide Reuse Goal with Intermediate Benchmarks

1. Develop political support in those areas where water providers have reuse opportunities, for a statewide reuse goal.
2. Develop & codify a statewide agreement requiring aggressive reuse for new supply development and agricultural transfers.
3. Encourage relevant local entities to outline and report their own approaches to help achieve the statewide goal that addresses potential impacts of reuse.

Develop New Incentives for Reuse

1. Explore funding options in support of the WSRA grant program, including using other source funds from the CWCB or CWPDA to incorporate a grant/loan combination or lower interest rates for reuse projects
2. Pursue breakthroughs in research to reduce reuse's water quality impacts, high energy costs, and other potential challenges. E.g., continue grant support for additional research on the zero liquid discharge for reverse osmosis (R.O.), a treatment technique that reduces, if not eliminates, the brine usually associated with R.O., utilizing existing resources such as the

WaterReuse Research Foundation which conducts and promotes applied research on the reclamation, recycling, reuse, and desalination of water.

3. Develop incentives, i.e., approaches that would better allow for reuse water to be marketed to water providers outside a service area could make building a reuse project more desirable.
4. Evaluate additional infrastructure that could facilitate increased reuse.

Education and Outreach

1. Implement Education and Outreach Efforts by tracking public attitudes through baseline and ongoing surveys as part of the "Value of Water" survey efforts including exploring ways to package reuse to gain public trust and acceptance.
2. Utilize existing resources such as as WaterReuse Colorado and the RMSAWWA/RMWEA Joint Reuse Committee which are based in Colorado and have the mission of promoting safe and effective reuse throughout the state.

Alternatives to Ag Transfers in BIPs

BMPs for Ag inside each BIP

1. Prioritize studies that quantify the amount of water that can be made available from Alternative Transfer Methods (ATMs) and agronomic response to regulated deficit irrigation and rotational fallowing.
2. Adopt more accurate quantification methodologies such as remote sensing for evapo-transpiration (ET) to facilitate streamlined ATMs and temporary water sharing arrangements.
3. Continue and expand funding for ATM program and demonstration pilot projects:
 - a. Focus on ATM pilots that accomplish multiple-purpose objectives (M&I, Ag gap, compact compliance, non-consumptive needs) such as the Colorado River Compact Water Bank and FLEX Markets model.
 - b. Pilot a new authority or overlay district to broker ATM deals or operate a large ATM project at least in the South Platte, which could generate a stable revenue stream.
 - c. Implement adequate measurement and monitoring, including baseline studies, considering how basin needs differ.
4. Implement ATM programs identified in pilots.
5. Analyze on-farm, automation, conveyance/diversion, and storage infrastructure needs and provide state funding to meet identified needs.
6. Quantify the potential water savings from regulated deficit irrigation, rotation fallowing (or idling), crop switching, improved irrigation technology and other ATMs and evaluate the tradeoffs associated with the transfer of water saved to other uses.
7. Encourage improvements in ag productivity per acre as lands are inevitably taken out of production.

Non-consumptive Needs in BIPs

1. Quantify the Basin's E&R needs and develop goals for meeting the E&R gap, with quantifiable, measurable basin or sub-basin outcomes, using the projects and methods database and other appropriate sources, including:
 - a. To promote recovery and sustainability of endangered, threatened, and imperiled species, by using existing recovery programs, CPW and Colorado Natural Heritage Program plans and other relevant information.
 - b. To maintain and further develop economically important E&R uses by benefiting basins and sub-basins that derive economic benefit from stream-dependent recreational activities.
2. Spell-out a timelines to meet the E&R gaps with both identified projects and processes and with its strategy for identifying the additional projects and processes that will be necessary to fill the remaining E&R gaps.
3. In protecting and restoring a Basin's natural environment and river-based recreation economy, a BIP should account for benefits that will accrue from E&R projects, but also from land use and the use and management of water for consumptive purposes.
4. Identify and explain how the Basin will implement multi-purpose projects and other strategies, including the CWCB's Instream Flow Program, to benefit both E&R and consumptive water users
5. Identify "E&R gap" reaches or watersheds in which there are no projects or methods, or where existing or planned projects are insufficient to protect or restore E&R attributes and propose a strategy to develop projects or processes to fill these remaining gaps. Included in this strategy would be the identification of funding or establishment of incentives to fill the gap in these reaches and sub-watersheds.
6. In identifying implementation strategies for E&R projects and methods, a BIP should include funding sources and develop incentives to implement E&R projects that help meet the E&R gap.
7. Target existing funding sources and programs to provide sufficient levels of support for implementation of E&R needs beyond those currently listed in the NC Toolbox.
8. Institute efforts to incentivize meeting NC needs.
9. Include a GIS overlay of NC & consumptive uses that allows current and future water users to identify potential mutually beneficial projects.
10. Specify mitigation and/or enhancements for structural projects to leave adequate river flows to support recreational uses and healthy ecosystems under all future scenarios.
11. Establish risk management and environmental metrics that analyze impacts of proposed new supply projects and their compatibility with other consumptive and E&R needs.
12. Projects included in a BIP for rebuilding infrastructure damaged by flooding or other disasters should respect and maintain the ecosystem values of river channels and floodplains and ensure future resiliency to variable climate conditions.
13. Include innovative water management strategies that allow existing supplies to help protect flows for the environment, recreation, water quality, without adversely affecting yield and while continuing to meet our compacts obligations to downstream states.

14. Track E&R Projects and Methods by periodically surveying E&R advocates re: E&R projects, methods & gaps, creating a web portal for the roundtable to update the status of the E&R gap and understand opportunities to help meet it, and improve its existing databases.
15. Provide information to the CWCB to allow incorporation of E&R projects and gaps into the Basin Needs Decision Support System.
16. Utilize the Toolbox decision tree to determine actions needed to meet E&R needs and implement projects.

Structural Project BMPs

The BMPs below should apply to new water projects proposed to meet M&I or agriculture demands—i.e., those not yet in the NEPA process. Many elements may also be applicable to projects already in the NEPA “pipeline.” The IBCC and other groups have discussed that storage of some kind may be needed as part of projects to meet other purposes (e.g., re-use and even non-consumptive needs).

Specific new storage project proposals in Basin Implementation Plans should:

Basis for project proposal:

1. Explain the purpose, need, and timeframe for the anticipated new water demands, including underlying population projections from DOLA that are no less than three years old.
2. Articulate in detail what alternatives for meeting these new demands were analyzed and how those analyses affected the resulting project proposal. These analyses include a quantification of water available from:
 - a. Anticipated municipal conservation savings (per capita gallons/day or total);
 - b. water-smart land use measures utilized by the water provider and community;
 - c. Re-use projects that develop all existing and anticipated legally re-usable supplies;
 - d. Rehabilitation of existing storage projects and other infrastructure;
 - e. Conjunctive use of surface and groundwater resources;
 - f. Other projects (e.g., partnering with other providers) that could meet some or all of the anticipated demands;
 - g. Alternative agriculture transfers in the basin-of-use;
 - h. Water available from likely municipal growth onto agricultural land; and
 - i. Cost estimates for the proposed project and the alternatives above.
3. If this project proposal anticipates moving water between river basins, explain how this project proposal would address concerns raised by stakeholders, including municipalities, counties, conservancy districts, and conservation districts in the basin-of-origin.
4. Explain how this project would impact compact obligations with downstream states.

Process for continued consideration:

1. List all stakeholders who would be invited to take part in further analysis of the proposal.
2. Explain how these stakeholders would be engaged to address any conflicts and concerns and what level of stakeholder support would be required to allow the project to proceed.
3. As a prerequisite for state support, explain in detail how the proposal would meet the “values” stated in the May 2013 Executive Order and would meet the following criteria:
 - a. [SEE LIST OF CRITERIA STARTING ON NEXT PAGE]

4. Explain what “multiple purposes” this project would meet, including the quantity of water to be made available for meeting tourism, recreation, environment, hydropower, and agriculture [and anticipated future development] in the basin-of-origin and basin-of-use.
5. Articulate the impact the potential project would have on water quality, including the cost to upgrade public water and wastewater facilities in the basin-of-origin and basin-of-use.
6. Include what specific, enforceable mitigation measures would avoid harm to waters in the basin-of-origin, including at least:
 - a. Temperature standards in the river and how project operations would be altered/suspended to avoid exceeding these temperature standards;
 - b. How sediment transport and essential channel-forming processes would continue, through periodic flushing flows or other means; and
 - c. How the project proponent would address any decline in the aquatic conditions.

Proposed Criteria for State-Supported Projects in Colorado’s Water Plan

According to the November 7, 2013, Draft Annotated Framework, Colorado’s Water Plan will:

Provide 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[.]

Section 5.7 of the Framework further describes the need for both incentive-based criteria to make projects that “may be lacking” into projects “worthy of state support,” and the need for “criteria and a rubric for CWCB financing,” consistent with the three values from the May 2013 Executive Order and its directive to align state funding and other programs, which the Draft Framework covers in Section 6.

With this direction in mind, the CWCB should consider adopting the following criteria as part of the Plan to ensure that each water project or method:

1. Provides water security
2. Meets a real gap(s)
3. Is cost effective
4. Is feasible
5. Does not impair water quality
6. Has sought public input
7. Coordinated with local government entities and affected basins on impacts
8. Does not interfere with compact compliance
9. Meets multiple purposes

Criteria Enumerated:

- **Provide Water Security.** Taking into account its lifetime impacts and benefits, the project or method:

- Helps the proponent conform to principles of smart growth and sustainable land use that reduces per capita water demand, for example, with evidence of promoting new development around existing facilities, clustering, limited shared lawns or green belts or high density development,
 - Relies on renewable, local surface and ground water sources and existing reusable supplies of water to the maximum extent possible,
 - Avoids adverse effects to stream flows and other non-consumptive values, and if avoidance is not possible, minimizes and mitigates such adverse effects, in the first instance where such effects occur using tools including instream flow protections, water rights leasing, restoration projects, diversion improvements, and consumptive use efficiencies
 - Enhances non-consumptive values, where possible and relevant,
 - Avoids adverse effects to watershed health,
 - Avoids adverse effects to rural communities,
 - Avoids adverse effects to the local economy (including the economy of the basin of origin in the case of a transbasin diversion),
 - Conforms to local government planning and permitting where the water would be used and, if a transbasin diversion, in its basin of origin, and
 - Avoids adverse effects to viable and productive agricultural, including the permanent dry up of high value agricultural land and the habitat it provides.
- **Meets Real Gaps between supplies and demands.** The project or process addresses a specific, identified gap for:
 - M&I that exists or that will exist before 2050 based on state demographer data and the integrated resource plan or other appropriate planning document of the water provider(s) responsible for supplying water to the area, and would meet such gap;
 - And, the proponent demonstrates that there is a need for the project or process, after submitting written evidence that it:
 - Is meeting or has specific plans to meet the “high” conservation targets in SWSI 2010,
 - Has plans to recycle all current and future legally reusable supply,
 - Has already pursued projects or methods that firm the yield of existing sources of supply,
 - Sought out partners to maximize shared storage and delivery infrastructure, and
 - Explored and implemented all feasible sharing arrangements with agriculture
 - OR, if Non-Consumptive by:
 - Appropriating, acquiring and transferring water to the CWCB for dedication within its instream flow protection program, including for improving flows, or
 - Protecting water that currently supports non-consumptive values, e.g., agreements that maintain water instream for the long-term, or
 - Restoring water to a reach, through re-timing of flows, exchanges and leases, and other management/administration strategies that will result in an enhancement of non-consumptive values as presented in Basin Non-Consumptive Needs Assessments, or
 - Improving flows or habitat without dedicating new water to the streams, for example by removing barriers, modernizing irrigation structures, and restoring riparian corridors.
 - OR, if Agricultural by:
 - Improving existing infrastructure, including e.g., dredging reservoirs that have lost capacity, lining or piping ditches, modernizing existing dams and diversion structures, or

- Improving on-farm efficiency and productivity through conversion to new irrigation applications or farm practices, or
 - Sharing water amongst users on a stream or within a sub-basin, or
 - Exploring expanded or new storage opportunities – preferably smaller, local, and off-channel – that can stretch supplies for agriculture and provide water for multiple consumptive and non-consumptive needs, or
 - Aid interested farmers in crop transition to low water use crops.
- **Cost-Effectiveness.** The proponent of the project or process demonstrates:
 - overall cost-effectiveness, taking into consideration both its expected unit cost and indirect impacts (including “opportunity costs”, like loss of recreational opportunities or loss of environmental values, such as expected fish mortality).
 - an immediate, local contribution of at least 20 % to finance the project or process, including up-front capital,
 - financial capacity to repay any state financial assistance provided.
 - ability to leverage any state grant or loan with local and/or federal funding in a timely manner, and
 - Used or sought federal funding for which the project is eligible.
 - **Feasibility.** The proponent of the project or process demonstrates:
 - availability of water supplies and water rights for the project or process, if relevant, AND
 - hydrological, technical and scientific practicability of the project, as demonstrated by professional engineering, biological, or other analyses.
 - It is ready to proceed upon receipt of funding and permits by showing that:
 - it has completed all preliminary planning and design work,
 - it has, by decree, lease or contract, the necessary water rights,
 - it has secured a commitment for funding necessary from other sources, and
 - it can begin implementing the process or project.
 - **Water Quality.** The project or process does not cause or contribute to an exceedence of an applicable water quality standard or impair a classified use in any waterbody affected.
 - **Public Input.** The proponent of the project or process has:
 - provided meaningful opportunities for stakeholder and public input, and
 - demonstrated it has made reasonable efforts to respond to, address, and modify the project based upon the concerns of those who did comment.
 - **Coordination.** The proponent of the project or process demonstrates that the project or process:
 - was subject to consultation with, and received the necessary approvals from or the support of affected local governments,
 - has received the support or approval of the basin roundtables both where the water will be used and, if a trans-basin use is proposed, in its basin of origin,
 - does not address a gap that another project or process qualified for state support pursuant to these criteria is already addressing,
 - will not adversely affect levels of conservation, reuse or efficiency for other water suppliers or users,

- will not adversely affect non-consumptive values in the basin of origin beyond what can be avoided, minimized or mitigated, for example, as evidenced by support from local conservation organizations and the environmental and recreational representatives on the roundtable.
- **Compact Compliance.** The proponent of the project or process demonstrates that its construction or implementation will not increase the risk of non-compliance with any inter-state compact or of curtailment of existing water rights.
- **Multipurpose.** Projects and methods that satisfy all or significant portions of multiple gaps and have multiple purposes will have that factor weighed in their benefit in terms of funding approval.

Cover Sheet for Input Document, Item #37

The document listed 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: April 7, 2014

Input provided by: Ken Neubecker, American Rivers

Method of submission: Email to Jacob Bornstein; forwarded to cowaterplan@state.co.us

Summary of Input: Text from Email: "I wanted to give you a heads up about the American Rivers listing of the upper Colorado River system in Colorado this Wednesday as the second most endangered "river" in the country. The impetus for the listing comes from the persistent calls for a "New Supply" diversion by Front Range entities. The focus is on the Colorado Water Plan, with the idea of getting as many more common citizens engaged as possible with protecting West Slope rivers and water supplies. I am attaching the press release that was sent out, as well as the report page that will be printed. The White River is being listed separately because of potential threats from energy development."

Documents Submitted for Review: Comments in attached letter

Staff Response: CWCB staff appreciates American River's informing us of their decision to list the Upper Colorado River as the second most endangered river in the country. Colorado's Water Plan will not have a specific transmountain diversion project as part of the plan. One of the driving forces behind development of Colorado's Water Plan is to create solutions that support these values: 1) vibrant and sustainable cities, 2) viable and productive agriculture, 3) a robust recreation and tourism industry, and 4) a thriving environment that includes healthy watersheds, rivers, streams, and wildlife.



Embargoed for 12:01am eastern on April 9, 2014

Upper Colorado River Among America's Most Endangered Rivers of 2014

New water diversions threaten river health, wildlife, recreation

Contact:

Ken Neubecker, American Rivers, (970) 376-1918

Bart Miller, Western Resource Advocates, (303) 444-1188

Kent Vertrees, Friends of the Yampa, (970) 846-7933

Jennifer Bock, High Country Conservation Advocates, (970) 349-7104 ext. 4

www.americanrivers.org/UpperColorado

Washington, D.C.- American Rivers named the Upper Colorado River Basin among *America's Most Endangered Rivers*® of 2014 today, shining a national spotlight on the need for Colorado Governor John Hickenlooper to prevent new water diversions and instead prioritize river protection and water conservation measures in the state water plan.

"The *America's Most Endangered Rivers* report is a call to action to save rivers that are at a critical tipping point," said Ken Neubecker of American Rivers. "We cannot afford more outdated, expensive, and harmful water development schemes that drain and divert rivers and streams across the Upper Colorado Basin. If we want these rivers to continue to support fish, wildlife, agriculture, and a multi-billion dollar tourism industry, we must ensure the rivers have enough water."

The Upper Colorado River Basin is threatened by new water diversions. Having tapped the headwaters of the Colorado River mainstem, some Front Range water interests are currently considering diversions from rivers such as the Yampa and Gunnison— rivers not yet impaired by trans-mountain diversions.

"We can solve the puzzle of meeting water demands of new Colorado residents with an increased focus on conservation, recycling, and sharing agreements between irrigators and cities," said Bart Miller, Water Program director for regional conservation group Western Resource Advocates. "The pieces are there, we just have to put them together."

"Why jeopardize another West Slope river in Colorado and ruin it forever? Rivers like the Yampa and Gunnison have in-basin needs and growth that they need to adhere to first and foremost," said Kent Vertrees, board member of the Friends of the Yampa based in Steamboat Springs, Colorado. "Add in endangered species, critical habitats, and a wild type of river recreation found in the canyon country, and these rivers would be at a major risk of losing these important values if we dewater them in a major way."

"The Gunnison River and its headwater tributaries, though supporting spectacular fishing and recreation, are already maxed out in terms of municipal, agricultural, and non-consumptive uses. We see shortages many years in each of these sectors. So, it's hard to figure how there is any

water available to be sent out of the basin,” said Jennifer Bock, Water Director at High Country Conservation Advocates.

In 2013, American Rivers listed the Colorado River as #1 on the list of *America’s Most Endangered Rivers®* due to the overarching concern of outdated water management throughout the entire basin. To begin addressing this concern in the Upper Basin, Governor Hickenlooper has directed the Colorado Water Conservation Board to develop the first statewide water plan to determine how Colorado will meet its water needs in the future.

American Rivers and its partners called on Governor Hickenlooper and the Colorado Water Conservation Board to make sure the state water plan:

- Prioritizes river restoration and protection
- Increases water efficiency and conservation in cities and towns
- Modernizes agricultural practices
- Avoids new major trans-mountain diversions

The Colorado River Basin in the State of Colorado includes the mainstem Colorado River and headwater rivers, such as the Eagle, Roaring Fork, Blue, Yampa, Green, and Gunnison. The basin is home to gold medal trout fisheries, world class paddling, and scenic canyons. The resort areas of Winter Park, Breckenridge, Aspen, Steamboat Springs, Crested Butte, and Vail, as well as much of the urban Front Range (on the other side of the Continental Divide), all get some or all of their drinking water from these rivers. The Upper Colorado River Basin is home to 14 native fish species, including several fish listed as endangered.

The annual [*America’s Most Endangered Rivers®*](#) report is a list of rivers at a crossroads, where key decisions in the coming months will determine the rivers’ fates. Over the years, the report has helped spur many successes including the removal of outdated dams, the protection of rivers with Wild and Scenic designations, and the prevention of harmful development and pollution.

America’s Most Endangered Rivers® of 2014

#1 San Joaquin River (California)

Threat: Outdated water management and excessive diversions

#2 Upper Colorado River Basin (Colorado)

Threat: New trans-mountain water diversions

#3 Middle Mississippi River (Missouri, Illinois, Kentucky)

Threat: Outdated flood management

#4 Gila River (New Mexico)

Threat: New water diversions

#5 San Francisquito Creek (California)

Threat: Dam

#6 South Fork Edisto River (South Carolina)

Threat: Excessive water withdrawals

#7 White River (Colorado)

Threat: Oil and gas drilling

#8 White River (Washington)

Threat: Outdated dam and fish passage facilities

#9 Haw River (North Carolina)

Threat: Polluted runoff

#10 Clearwater/Lochsa Rivers (Idaho)

Threat: Industrialization of a Wild and Scenic River corridor

###

About American Rivers

American Rivers protects wild rivers, restores damaged rivers, and conserves clean water for people and nature. Since 1973, American Rivers has protected and restored more than 150,000 miles of rivers through advocacy efforts, on-the-ground projects, and an annual America's Most Endangered Rivers® campaign. Headquartered in Washington, DC, American Rivers has offices across the country and more than 200,000 members, supporters, and volunteers.

Rivers connect us to each other, nature, and future generations. Find your connections at AmericanRivers.org, Facebook.com/AmericanRivers, and Twitter.com/AmericanRivers.



Moffat Water Diversion East Portal; Photo: Ken Neubecker

#2: Upper Colorado River

Colorado

Threat: Water diversions

At Risk: River health and recreation

The River

The Colorado River Basin in the State of Colorado includes the mainstem Colorado River and headwater rivers, such as the Eagle, Roaring Fork, Blue, Yampa, Green, and Gunnison. Gold medal trout fisheries, world class paddling, and glorious massive canyons can be found throughout this river system. The resort areas of Winter Park, Breckenridge, Aspen, Steamboat Springs, Crested Butte, and Vail, as well as much of the urban Front Range (on the other side of the Continental Divide), all get some or all of their drinking water from these rivers. The Upper Colorado River Basin is home to 14 native fish species, including several fish listed as endangered.

The Threat

In 2013, American Rivers listed the Colorado River as #1 on our list of *America's Most Endangered Rivers*® due to the overarching concern of outdated water management throughout the entire basin. To begin addressing this concern in the

Summary

The Upper Colorado River and its tributaries include some of the most heavily degraded rivers and some of the last truly healthy rivers in the West. The rivers are critical to Colorado's heritage; they are the life-line for much of the state's fish and wildlife, they sustain a vibrant agricultural economy, and they provide world-class opportunities for fishing, paddling, and hiking. However, these renowned rivers are threatened by increasing water demands and new proposed water diversions. The Governor of Colorado must take a stand now and keep water flowing in the rivers by promoting responsible conservation measures in the Colorado Water Plan.



American Rivers
Rivers Connect Us®

2014 *America's Most Endangered Rivers*®

www.americanrivers.org

1101 14th Street NW, Suite 1400, Washington, DC 20005

(202) 347-7550



Fishing on the Blue River
Photo: Spencer Blake

Upper Basin, Colorado Governor John Hickenlooper has directed the Colorado Water Conservation Board to develop the first statewide Water Plan to determine how Colorado will meet its water needs in the future. With its population expected to double by 2050, Colorado must seize this opportunity to chart a more sustainable course for water management.

Approximately 80% of Colorado's population lives on the Front Range in cities like Denver, Colorado Springs, and Fort Collins, but 80% of Colorado's snow and rain falls on the Western Slope, primarily within the Upper Colorado River Basin. The Front Range has long depended on "trans-mountain" projects that pump, pipe, and divert water over the Continental Divide from the Colorado River Basin for municipal use, lawn irrigation, and agriculture. These dams and diversions decrease river flows, degrade the environment, and harm river recreation that is a key element for the tourism economy on the Western Slope. Having tapped the headwaters of the Colorado mainstem, some Front Range water interests are currently considering diversions from rivers further away, like the Yampa and Gunnison Rivers—rivers not yet impaired by trans-mountain diversions.

The Governor of Colorado and the Colorado Water Conservation Board cannot afford to fall back on outdated, expensive, and harmful water development schemes as acceptable solutions when they develop the water plan for Colorado's future. Rivers are vitally important for Coloradans, and protecting and restoring rivers needs to be a top priority. If we want rivers to continue to support fish, wildlife, agriculture, and a multi-billion dollar tourism industry, we must ensure they have enough water.

What Must Be Done

Colorado Basin Rivers have played an important role providing water for Front Range development, but many of the rivers are drained and have no more water to give. The Draft Colorado Water Plan is scheduled to be released in December 2014, and the Governor and Colorado Water Conservation Board must make the following common sense principles a core part of the plan:

1. Prioritize protecting healthy flowing rivers and restoring degraded ones
2. Increase water efficiency and conservation in cities and towns
3. Modernize agricultural practices and make it easier for irrigators—who now use more than 80% of Colorado's water—to share water with urban areas in ways that both maintain valuable ranches and farms and keep rivers healthy
4. Avoid new major trans-mountain diversion projects so as not to further harm Upper Colorado rivers and the communities that depend upon them

Adopting these strategies will allow sustainable use of water from the Upper Colorado River Basin, without building costly, environmentally harmful, and ultimately ineffective projects on these cherished rivers. Greater cooperation, innovative technologies, and best practices will enable Colorado to build prosperous communities, support thriving agricultural and tourism industries, and keep our rivers healthy and flowing. Colorado's Water Plan will influence water development and impacts to rivers in Colorado for decades to come. Taking additional water from the Upper Colorado River Basin, already over-taxed by existing water diversions, should not be an option and will be unnecessary if the Governor and Colorado Water Conservation Board adopt a sensible Water Plan.

How You Can Help

- Go to www.americanrivers.org/UpperColorado and **TAKE ACTION!**
- Retweet from @americanrivers on Twitter and use the hashtag #MER2014
- Share Upper Colorado posts on our [Facebook](#) page and share our posts on yours
- Keep talking about the Upper Colorado and its tributaries to decision-makers and with your friends!



Roaring Fork River, a tributary to the Colorado River
Photo: Justin Jensen

For More Information:

Ken Neubecker
American Rivers
(970) 376-1918
kneubecker@americanrivers.org

Bart Miller
Western Resource Advocates
(303) 444-1188 x219
bart.miller@westernresources.org

Kent Vertrees
Friends of the Yampa
(970) 846-7933
kent@steamboatpowdercats.com

Jennifer Bock
High Country Conservation Advocates
(970) 349-7104 ext. 4
jen@hccaonline.org

Cover Sheet for Input Document, Item #41

The document listed 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: April 10, 2014

Input provided by: Melinda Kassen, WaterJamin Legal & Policy Consulting

Method of submission: Email to cowaterplan@state.co.us

Summary of Input: Conservation Colorado's Comments on Chapter 5.4 Water Quality of Colorado's Water Plan.

Documents Submitted for Review: Comments in attached letter

Staff Response: These comments were incorporated into the current draft of Section 5.4 by the CDPHE Water Quality Control Division.

Melinda Kassen, JD
WaterJamin Legal & Policy Consulting
2350 Balsam Drive, suite 103
Boulder, CO 80304
303.579.5453
melindakassen@aim.com

April 10, 2014

Nicole Rowan, Colorado Water Quality Control Division
Trisha Oates, Colorado Water Quality Control Commission
Colorado Department of Public Health & Environment
4300 Cherry Creek Drive South
Denver, CO 80246

VIA EMAIL

RE: Conservation Colorado Comments on §5.4 of Colorado's Water Plan (Water Quality)

Dear Nicole & Trisha,

Thank you for this opportunity to submit comments on behalf of Conservation Colorado (CoCO). CoCO is a not-for-profit organization with over 4000 members statewide. Its mission is to protect Colorado's environment and quality of life by mobilizing people and electing conservation-minded policymakers. For almost a year, CoCO has been working to providing a voice for members of the public interested in protecting Colorado's water resources to those writing Colorado's Water Plan. CoCO has previously made both oral and written comments on the Chapter 5.4, the Water Quality section of the plan (draft text and framework documents). We thank you for listening to our suggestions; we see many of them incorporated into the first complete draft of Chapter 5.4, distributed to the Water Quality Forum last week. Please accept these additional suggestions.

Overall, we think the draft is an excellent distillation of the complex framework for how water quality protection intersects with water management. In the following pages, we offer section-by-section comments on the April 2, 2014 version of Chapter 5.4. We see two primary areas where the Division and Commission can strengthen the draft.

- Overall, Chapter 5.4 must describe with more specificity the importance of, and how to go about, improving water quality so that Colorado can meet its consumptive and non-consumptive water needs (the gaps) and maintain the value of our State's "strong environment that includes healthy watersheds, rivers and streams and wildlife."
- The recommendations in § 5.4.3 need to be more specific to take advantage of Colorado's Water Plan in terms of meeting all of the identified consumptive and non-consumptive gaps, as well as maintaining the value of Colorado's "strong environment that includes healthy watersheds, rivers and streams and wildlife."

Someone from CoCO will be available to answer questions you may have about these comments at the Commission meeting on April 14th. Alternatively, please do not hesitate to call either me at the number above, or Theresa Conley, (303) 605-3482. Thank you in advance for your continued attention to these comments and for your efforts to protect and restore the quality of Colorado's water resources.

Conservation Colorado Comments on §5.4 of Colorado's Water Plan (Water Quality)

Introduction (page 1)

- While the text currently cites the directive in Governor Hickenlooper's Executive Order to integrate water quality with water quantity, Conservation Colorado urges the inclusion of that Order's statement of the value on protecting Colorado's environment and recreation economy. A statement along the lines of, *Moreover, the Executive Order lists "a strong environment that includes healthy watersheds, rivers and streams and wildlife" as one of three core Colorado values*, would logically fit in line 1 before the sentence that begins, *In addition*.
- The text currently states that clean water benefits those exercising water rights (lines 28-32). The benefits of clean water go well beyond those exercising water rights. Clean water helps maintain the fish and wildlife and recreation in and on the water that all Coloradans enjoy. Clean water is critical to the quality of life that draws people to the state and those of us fortunate enough to live here almost take for granted. In addition, water quality management provides many highly skilled jobs in engineering and wastewater treatment across the state. The draft could acknowledge this point by adding an additional sentence to the end of that paragraph, stating, *In fact, Colorado's water quality management programs benefit all Coloradans because clean water is essential to the state's healthy environment, diverse economy and quality of life*.

5.4.1.1 Water Quality – Quantity Connections

- 1st bullet (page 2). We appreciate the rewrite here. We would suggest two additional improvements:
 - Because there are relatively few places where cold water releases adversely affect aquatic life, as opposed to the many reservoir releases that create gold medal fisheries, please change the word *some* on line 60 to *a few* and *many* on line 62 to *most*.
 - As just noted, reservoir operations often adversely affect water quality and fisheries due to releases with low oxygen and high temperatures. In addition, reservoir operations frequently result in low flows and higher levels of total dissolved solids in the stream segment below the dam. Therefore, the problems described are not only the result of off-channel water management activities. To clarify, please add before the word *other* on line 65, the phrase *including impoundments, but also*.
- 3rd bullet (page 3). CoCO suggested in earlier comments that wastewater utilities may need to spend money to upgrade infrastructure simply because the infrastructure is old, not only to respond to more stringent regulatory requirements. Adding the phrase *or needed upgrades to aging infrastructure* before the word *can* would incorporate this point.
- 4th bullet (page 3). Delete the word *and* on line 102.

5.4.1.2 Statutory and Regulatory Relationships

- Thank you for including the paragraph on page 4, starting at line 140.

5.4.1.3 Water Management Relationships

- CoCO understands that some of our suggestions elsewhere may require additional text. We suggest that it would be possible to substantially shorten this section to accommodate those

expansions, either by editing the existing text or by moving the information in this section to Chapter 1.2 of Colorado's Water Plan.

5.4.1.4 Current Water Quality Conditions

- Antidegradation:
 - CoCO recommends moving the description of the antidegradation policy and designations on page 8, lines 279-294 to follow the descriptions of classifications and standards in this section on page 6, line 205.
 - CoCO suggests that the description include a sentence stating that new water projects often trigger anti-degradation reviews for undesignated waters.
 - CoCO concurs with Trout Unlimited's point that it is incorrect to state that the protecting water quality that is better than standards is done "for its own sake." Outstanding and reviewable waters deserve protection for many reasons. CoCO suggests that the next draft of this section replace the sentence now on lines 281-284 with a sentence that reads: *The policy provides an additional layer of protection of especially high quality waterbodies.*
 - The paragraph should also include a description of the Use Protected designation that allows degradation of water quality down to the water quality standard.
 - Finally, CoCO suspects that many of Colorado's Water Plan readers may not understand the term *assimilation* and that the text could eliminate the phrase *the assimilative capacity or the* on line 290, change *the* to *such* on line 292 and delete the word *assimilative* on line 293..
- This section needs a more complete description of water quality impairment in Colorado.
 - The section should acknowledge that it is a foregone conclusion that there will be impairment in some subset of unassessed streams.
 - In addition, many assessed water bodies have exceedences of standards, or degradation that does not result in a listing as impaired. In addition, segments with site specific standards, or temporary modifications are not listed in Regulation 93, but in fact are not of an acceptable quality. By definition, waters with temporary modifications are expected to be improved within 20 years. All of these types of waters should be called out in this section.
- Finally, to achieve the necessary integration of quality and quantity that the Executive Order seeks, as well as to meet Colorado's consumptive and non-consumptive water gaps, Basin Implementation Plans (BIPs) need to include projects and processes that protect good quality waters and restore those that are impaired. The Roundtables will not be able to do so unless the Division and Commission share the available information about Colorado water quality with the CWCB, the Basin Roundtables and their contractors. With such information, BIPs can establish appropriate goals, objectives and measurable outcomes, and propose projects or processes to achieve the water quality required to close both consumptive and nonconsumptive gaps. Good water quality contributes to both non-consumptive values and the ability to use water beneficially for consumptive purposes.

5.4.1.5 Future Water Quality Conditions

- It is important to be explicit that the changes coming (page 6, line 221) will happen both because regulations may become more stringent **and** because climate change and populations increases may result in increased physical, chemical and biological impacts to water quality.

- While this section notes that there will be “changes” over the next 35 years, it fails to suggest taking action pro-actively to maintain and improve water quality in the face of these changes and increased pressures. Colorado's Water Plan is an opportunity to meet these challenges with goals, strategies and targets, not only at the BIP level but in the Plan itself.
- Climate change is one change that is likely to occur. EPA's 2013 “20 watersheds” report, available on line, <http://cfpub.epa.gov/ncea/global/recordisplay.cfm?deid=256912-#Download>, analyzes the impacts of climate change on water quality in 20 watersheds across the US, including the Rio Grande, Upper Colorado and South Platte. This report is mentioned in the recently released draft update of the CWCB's *Climate Change in Colorado* update, <http://cwcb.state.co.us/environment/climatechange/Documents/ClimateChange-COReportDRAFT.pdf>. Where higher temperatures result in lower flows (due to increased sublimation and evaporation), higher pollutant loads (sediment, nutrients and others) follow. CoCO urges the Division and Commission to acknowledge these, and to make recommendations for countering them going forward.
- For example, to complement the BIPs, this section of Colorado's Water Plan should establish targets for achieving water quality progress at the state level, for example, by reducing the list of impaired waters and temporary modifications by some specified percentage, or specified number of stream miles by 2050 and not adding new segments to Regulation 93 nor adopting new temporary modifications. Or, simply establish a goal that the water quality in all segments will fully support their use classifications by 2050.

5.4.2 Water Quality Management

- In the description of TMDLs on page 8, starting at line 305, the section should add language to acknowledge that, at least historically in Colorado, TMDLs do not always result in improved water quality conditions. In fact, many TMDL processes result instead in an easing of the applicable water quality standards, and occasionally even a classification. When this occurs, water quality does not improve; in some cases, this strategy maintains the status quo, and in others, it allows for further degradation of water quality over time.

5.4.3.1 Recommendations related to Integrated Water Quality-Quantity Management

- These recommendations all need to be more action-oriented.
- Strengthen the 2nd bullet. Not only should Colorado's Water Plan *continue to look for opportunities to address potential water quality impacts*, but it should ensure that the BIPs establish goals, objectives and measurable outcomes related to protecting and improving water quality and that the state plan include targets for water quality improvement (as suggested above under 5.4.1.5).
- In the 3rd bullet (about green infrastructure), in addition to cataloging strategies, the recommendation should explicitly call for the Commission to study the issue and propose guidance or changes to regulations (or new regulations) that encourage these approaches.
- This same comment applies to the existing recommendations on reuse, aquifer storage and recovery, stormwater management, nonpoint source control and the salinity program (bullets 5, 6, 7, 8 and 10).

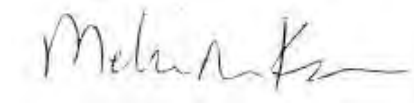
5.4.3.2 Recommendations related to Policy Considerations

- In the 1st bullet, CoCO requests that *regulatory flexibility* be clarified to include not only the more common understanding of this phrase (reduce regulatory protections) but also the

possibility that Colorado may decide it needs to allow more stringent than federal standards to protect its water resources.

Again, thank you for all of your work on this section and for the opportunity to comment.

Sincerely,

A handwritten signature in dark ink, appearing to read "Melinda Kassen", written over a light gray rectangular background.

Melinda Kassen

CC: Becky Mitchell, CWCB
Kate McIntyre, CWCB
Becky Long, Conservation Colorado
Theresa Conley, Conservation Colorado

Cover Sheet for Input Document, Item #42

The document listed 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: April 10, 2014

Input provided by: Mary Keyes, Northwest Colorado Council of Governments (NWCCOG)

Method of submission: Email to Jacob Bornstein and Rebecca Mitchell; forwarded to cowaterplan@state.co.us

Summary of Input: NWCCOG's comments on the April 2, 2014 draft Section 5.4 Water Quality.

Documents Submitted for Review: Comments in attached letter

Staff Response: These comments were incorporated into the current draft of Section 5.4 by the CDPHE Water Quality Control Division.

SULLIVAN GREEN SEAVY LLC

Barbara J.B. Green

Direct: 303-355-4405

barbara@sullivangreenseavy.com

April 10, 2014

VIA EMAIL: nicole.rowan@state.co.us

Nicole Rowan

Colorado Water Quality Control Division

Re: Colorado Water Plan - NWCCOG/QQ Comments, Subsection 5.4

Dear Nicole:

This letter conveys the comments of Northwest Colorado Council of Governments ("NWCCOG") and the Water Quality/Quantity ("QQ") Committee on the April 2, 2014 draft of Subsection 5.4 of Colorado's Water Plan. NWCCOG is an association of municipal and county governments within Grand, Summit, Eagle, Jackson and Pitkin counties and serves as the designated Regional Water Quality Management Agency responsible for preparing and implementing the area 208 plan. The QQ Committee is the water policy arm of NWCCOG. QQ includes NWCCOG members plus water and wastewater treatment providers, as well Gunnison County, Park County, the Town of Crested Butte, and the City of Steamboat Springs.

Thank you for the excellent over view that you have provided of the extremely complex relationship of water quality and quantity under extraordinarily tight timeframes, as well as your efforts to elicit feedback and respond to comments in a transparent process.

Please consider our clarifications and comments set forth, below, in redline.

Introduction.

Line 20 to 32:

We would like to emphasize that water quality is not just important to those exercising water rights. The Governor's Executive Order recognizes the interplay between quantity and quality, and lists "a strong environment that includes healthy watersheds, rivers and streams and wildlife" as one of Colorado's values. Please consider these changes to emphasize that point.

ATTORNEYS & COUNSELORS AT LAW

2036 E. 17th Avenue
Denver, CO 80206
Phone: 303-322-0366
Fax: 303-316-0377

3223 Arapahoe Avenue, Suite 300
Boulder, CO 80303
Phone: 303-440-9101
Fax: 303-443-3914

Nicole Rowan

April 10, 2014

Re: Colorado Water Plan - NWCCOG/QQ Comments, Subsection 5.4

Page 2

- Water quality and quantity are inextricably connected. Understanding water supply and demand alone is an incomplete picture. Not only must there be *enough* water available for use, but the water must also have a level of quality that it can be used for its intended purposes such as irrigation, municipal water supply, recreation and aquatic life. In fact, Colorado's status as a major tourist destination and its quality of life is linked to its healthy watersheds, rivers, streams and wildlife. For a discussion of the relationship between the economy and water please see "Water and its Relationship to the Economies of the Headwaters Counties," prepared for NWCCOG/QQ by Coley/Forrest Inc., http://nwccog.org/docs/gg/QQStudy_Outreach%20Summary%20Jan%202012.pdf. This is why both protecting and restoring water quality are fundamental to supporting Colorado's water values and implementing Colorado's Water Plan. Over the past 40 years Colorado's water quality management programs have benefitted Coloradoans ~~those exercising water rights~~ by ensuring clean water for such uses as growing crops to providing drinking water to enjoying water-based recreation ~~safely~~.

5.4.1.2 Statutory and Regulatory Relationships

This section is a good summary of very complex statutory provisions. We recommend a few changes to increase clarity:

Line 108 to 114:

At a state level, water quality and quantity are managed separately based on different constitutional, statutory and regulatory provisions. However, state and federal statutes that protect in-stream water quality recognize the importance of ~~maintaining water rights~~ protecting water rights from material injury while still providing the authority to impose water pollution controls. The federal statute that protects drinking water quality also recognizes integration with water quantity by including protections for source water that reduces treatment costs.

Line 129 to 139:

Many water development projects require either a federal dredge and fill permit under section 404 of the Clean Water Act or hydropower license from the Federal Energy Regulatory Commission. Regulation No. 82 gives the division three certification options for federal permits or licenses including the ability to certify, conditionally certify through identified mitigation measures or deny certification. Certification by the division means that compliance with the federal permit or license for a proposed project will maintain water quality use classifications, standards and designations.

Comment [AU1]: This is not really what the regulation says. Would it be possible to quote it rather than to paraphrase even though there is more discussion of this concept later on in the paper.

Nicole Rowan

April 10, 2014

Re: Colorado Water Plan - NWCCOG/QQ Comments, Subsection 5.4

Page 3

Line 140 to 143:

Often these site-specific standards and designations are adopted to reflect ~~represent~~ a lower water quality than would exist without a hydrologic modification such as a dam, diversion or return flows associated with ~~that are part of~~ exercising water rights throughout Colorado.

Line 144 to 149:

Local government regulations can also have a water quality and quantity connection. For example, local governments have been delegated permit authority over certain matters under the Areas and Activities of State Interest Act. ~~state statute establishes 1041 powers for local governments, providing an avenue for local input on areas and activities of state interest through local permitting processes. Municipal and industrial water projects are an example of activities of state interest which means local regulations, via the 1041 powers, can establish water quality related factors to consider in the permitting process for these water projects.~~ Under the Act, local governments can adopt regulations that address the impact of municipal and industrial water projects. Local regulations adopted under this act, referred to as 1041 regulations, often require mitigation of water quality impacts of these water projects. Associations of local governments also prepare Regional Water Quality Management Plans that establish water quality goals and recommendations for regional water quality management. Typical local 1041 regulations require new water projects to comply with these plans.

5.4.1.4 Current Water Quality Conditions

Please consider the following revisions:

Lines 190 to 197:

Evaluating the status of surface water quality in Colorado requires understanding the classified uses identified for waterbodies throughout the state. Classified uses for water can include domestic water supply, agriculture, recreation, aquatic life and wetlands. After classified uses are assigned to stream segments by the commission based on existing and attainable uses in those segments, water quality standards are adopted ~~defined~~ for many different pollutants to protect these waterbody-specific uses.

Line 204:

*We recommend that the description of the antidegradation policy later in the document be included here as part of the discussion of classifications and standards.
Please consider adding a statement that new water projects may be subject to an antidegradation review.*

Line 210:

- 10% of rivers and streams miles and 23% of lakes and reservoirs acres evaluated statewide

are not meeting water quality standards for one or more pollutant (impaired waterbodies).

Comment [AU2]: There are segments that do not meet water quality standards that have not yet been categorized as impaired.

Please consider adding a discussion that there are other waterbodies with temporary modifications that might be impaired.

5.4.1.5 Future Water Quality Conditions

Please consider the following revisions:

Line 218 to 263:

While current water quality conditions establish a baseline of information for comprehensively evaluating near-term projects that meet consumptive and nonconsumptive needs, the Colorado's Water Plan discusses a 35-year planning horizon which raises the question of future water quality conditions. Many changes will happen over the next 35 years that can affect both regional and statewide water quality. Those potential changes in water quality are important to consider as plans are made for addressing the municipal and industrial supply gap as well as meeting non-consumptive needs, such as environmental and recreational needs, over the next 35 years.

Comment [AU3]: The proposed wording does not make it clear that some of the non-consumptive projects that will be identified as part of the Colorado Water Plan are projects designed to enhance existing water quality or restore degraded stream segments.

Future water quality conditions will be determined by many factors, including water quantity decisions, and will likely be influenced by a changing water quality regulatory environment. There are already indicators of changes to federal water quality regulatory requirements, changes that promote progress in protecting and restoring water quality. Increased nutrient controls, more stringent arsenic standards and a revised selenium standard are current examples. There is also a renewed emphasis on implementing actions that will produce measurable, positive changes in water quality. Recognizing and finding opportunities in these potential changes to protect and enhance water quality is an important part of planning for the future water quality condition.

Other factors affecting future water quality conditions are important to recognize. As the economy and population grow and land uses change, there will be increased water quantity demands, and there will likely be additional stressors on water quality. Depending on what land use decisions are made and how they are implemented, water quality can be impacted by increased urbanization and associated stormwater runoff, volumes of discharged municipal wastewater, and industrial discharges including those from the energy sector. As streams are depleted from additional diversions, existing concentrations of pollutants will increase and water treatment and wastewater treatment relying on those streams will become more difficult. New issues can arise from emerging contaminants or interactions between different constituents that are not now known. These potential impacts could be negative though there can also be opportunities for positive change which makes informed, integrated water resource

Nicole Rowan

April 10, 2014

Re: Colorado Water Plan - NWCCOG/QQ Comments, Subsection 5.4

Page 5

management decisions very critical. The Colorado Water Plan basin implementation plans can provide templates for how positive change can be facilitated at the basin and sub-basin level.

The potential for future positive or negative water quality impacts is compounded by climate change. Predicted effects from a changing climate include:

- Shifts in the timing of runoff.
- Decreased late summer streamflows resulting from increased temperatures, a general increase in winter precipitation and a general decrease in summer precipitation.
- Increased stream temperature and/or different seasonal temperature changes.
- A change in frequency and intensity of wildfire.
- Variability in flood and drought extremes.

These potential fundamental system shifts make planning for a future water quality condition that supports uses very challenging and uncertain and highlights the need to adapt as change demands.

Scenario planning is a tool that provides adaptability and flexibility over time and emphasizes planning based on driving forces and critical uncertainties over a planning horizon rather than events and trends of the past as a projection for the future. The scenario planning completed for Colorado's Water Plan is based on a list of nine high-impact drivers that were factored into scenario development. Water quality is related to a number of the drivers but is primarily tied to Level of Regulatory Oversight/Constraint and Social/Environmental Values. Factors affecting future water quality conditions are integral to these two drivers and are also tied to uncertainties. Based on Colorado's Water Plan scenario planning approach, future water quality condition as it relates to meeting consumptive and nonconsumptive needs and maintaining healthy watersheds will be determined by the balance between all nine of the high-impact drivers, any other emerging drivers and the approach(es) used to address critical uncertainties.

5.4.2 Water Quality Management

Please consider the following revisions:

Line 301 to 304:

Information about attainment of water quality standards is provided in the Integrated Report (IR) discussed in 5.4.1.4 and is also identified in regulation (commission Regulation No. 93, Colorado's Section 303(d) List of Impaired Waters and Monitoring and Evaluation List); both are adopted by the commission through public processes. Watershed plans and 208 plans also address other water quality improvement and protection activities necessary to meet local and

Moved (insertion) [1]

Nicole Rowan

April 10, 2014

Re: Colorado Water Plan - NWCCOG/QQ Comments, Subsection 5.4

Page 6

regional goals. The division works with local partners and these local plans to implement priority projects to restore and maintain water quality at a watershed or regional scale.

Once streams and lakes are identified as not meeting water quality standards, a restoration plan is produced that defines how much of the pollutant that is causing the impairment can be in the stream or lake in order to ensure water quality standards are attained. This restoration plan is called a Total Maximum Daily Load (TMDL). There is a public notice process associated with TMDL development. Once the TMDL is approved by the Environmental Protection Agency, the TMDL is the basis for implementing actions necessary to bring the stream or lake back into attainment. Implementation actions can be defined in a TMDL implementation plan, in a locally-driven watershed plan or in a locally-driven regional water quality management plan (208 plan).

Moved up [1]: Watershed plans and 208 plans also address other water quality improvement and protection activities necessary to meet local and regional goals. The division works with local partners and these local plans to implement priority projects to restore and maintain water quality at a watershed or regional scale.

5.4.3 Recommendations

Please consider the following revisions:

5.4.3. 1 Integrated Water Quality/Quantity Management

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

- Evaluate water quality impacts associated with the proposed solutions and scenarios presented in the Basin Implementation Plans and in Section 5 of Colorado's Water Plan.
- Work with Basin Roundtables ~~Continue~~ to look for opportunities to address potential water quality impacts that arise from implementing water quantity solutions, for example adaptive management, nonpoint source management and habitat restoration as well as projects and processes that restore and enhance existing water quality conditions.
- Define what green infrastructure is for the arid west. For example, green infrastructure in the arid west could go beyond stormwater management activities and could include habitat restoration. A catalog or library of green infrastructure examples should be developed and maintained. Existing information that has been developed by green building groups and stormwater management interests may provide a starting point for this effort.
- Future new supply projects should be evaluated for multi-purpose aspects and compliance with basin implementation plans, and water quality considerations should be included in the project. For example, a reservoir project could be operated to minimize impacts on or enhance where possible water quality and the aquatic life environment.
- Identify the role of reuse by developing a catalog of reuse examples such as direct potable reuse, indirect potable reuse, non-potable reuse, graywater use and the associated water quality issues that will need to be addressed for each type of reuse.
- Identify the role of aquifer storage and recovery.
- Explore the role of stormwater management from both a quality and quantity perspective.

Nicole Rowan

April 10, 2014

Re: Colorado Water Plan - NWCCOG/QQ Comments, Subsection 5.4

Page 7

- Address nonpoint sources through on-going management activities that will play an important role in restoring water quality to address future water uses. Catalogue and evaluate local government land use planning tools that minimize nonpoint source pollution associated with development. A holistic approach to nonpoint source management including water quality trading such as the phosphorous program on Lake Dillon, should be explored.
- Identify the risks of climate change as it relates to integrated water quality and water quantity management.
- As Colorado continues to implement salinity controls other water quality improvements could be explored including how environmental flows could be integrated into the salinity control effort.

5.4.3.2 Policy Considerations

Please consider the following revisions:

Recommendations related to policy considerations include:

- Continue to exercise regulatory flexibility with actions such as site-specific standards, temporary modifications, discharger specific variances and water quality trading. ~~Also maintain efforts with non-regulatory programs including~~ Complement local government regulatory efforts to control nonpoint source ~~management~~ pollution and source water protection planning.
- As reuse continues to be maximized in Colorado, the concept of net environmental benefit needs to be explored. This concept is focused on the demonstration that the ecological value of using effluent to support riparian and aquatic habitats exceeds the ecological benefits of removing the discharge from the waterbody.
- Implementing new types of reuse in Colorado will require review of existing regulations, guidance and policy documents to consider revisions that will protect public health and the environment while also providing sufficient flexibility for water suppliers to develop a new water reuse projects across the state.
- Integrated water quality and quantity management will require consideration of the implication on water rights of given management strategies. For example, integrated stormwater management may have impacts on return flows and these impacts would have to understood and addressed before this strategy could be implemented.
- Colorado should continue to work with neighboring states to address water quality and quantity issues.

Comment [AU4]: While understanding that these goals are necessarily broad, this particular bullet could benefit from additional specifics or examples. It seems so broad as to be meaningless.

Nicole Rowan

April 10, 2014

Re: Colorado Water Plan - NWCCOG/QQ Comments, Subsection 5.4

Page 8

Sincerely,

Barbara Green

for

Northwest Colorado Council of Governments

cc: Liz Mullen

Jacob Bornstein

Rebecca Mitchell

Cover Sheet for Input Document, Item #48

The document listed 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: April 10, 2014

Input provided by: Kevin McBride, Upper Yampa Water Conservancy District

Method of submission: Online General Input Webform at www.coloradowaterplan.com

Summary of Input: Letter to the Yampa/White/Green Basin Roundtable (YWGBRT) regarding their support for the YWGBRT's White Paper.

Documents Submitted for Review: Comments in attached letter

Staff Response: The CWCB will send the Upper Yampa Water Conservancy District's letter to the YWGBRT. These comments also helped inform the IBCC discussion during the April 29, 2014 IBCC meeting.



Upper Yampa Water
Conservancy District

April 15, 2014

Mr. Jon Hill,
Chairman, Yampa/White/Green Basin Roundtable
Via email

RE: Yampa/White/Green Basin Roundtable, White Paper

Dear Chairman Hill

The Upper Yampa Water Conservancy District (UYWCD) Board has reviewed and approves of the Yampa White Green Basin Roundtable's (YWGRT) White Paper. The UYWCD Board wants to stress that it agrees with the need for an equitable apportionment for use of local waters. With regards to any additional Trans-Mountain Diversion (TMD) of water from the Colorado River Basin, given concerns about the Colorado River Compact and operational difficulties at Lake Mead and Powell, we are opposed to such diversions.

Before additional TMD's should be considered, some amount of the water resources of local rivers must be available first to those who live here; and that must be agreed upon prior to any additional TMD from the Colorado Basin at any location. The operation of any proposed Trans Mountain Diversion and its impacts on our Basin must be thoroughly understood prior to any agreement. Finally, the construction of such a project must be funded by the beneficiaries of the project and not by State taxpayers.

As the State of Colorado seeks to create a Colorado Water Plan it should not lose sight of the geographic diversity within the State, the variability of water supplies through time, and of particular interest to the Upper Yampa Water Conservancy District, the unique situation in the Yampa River Basin. As the UYWCD seeks to fulfill its mission:

"To lead water resource management within the District's boundaries by responsibly conserving, protecting, developing, providing and enhancing the water resources of the Yampa River Basin. The District will initiate and participate in projects that embody and promote the protection of water rights, provide broad benefits to District constituents and develop projects that provide responsible conservation, responsible growth, beneficial water storage and usage, and public awareness within the Upper Yampa Water Conservancy District".

We appreciate that the State seeks a Basin Implementation Plan that is truly a "bottom up" process, so that local entities can truly lead the process.

Sincerely,



John V. Redmond
President, Upper Yampa Water Conservancy District

Cover Sheet for Input Document, #49

The document listed 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: April 18, 2014

Input provided by: Genia Gallagher, Colorado Citizen

Method of submission: Online General Input Webform at www.coloradowaterplan.com

Summary of Input: Webform comments as follows: "While obtaining my Masters in History from Regis University I developed a course on History of Water in the West which opened my eyes to the issues that face many of the states in the region. Upon further research into how Colorado is addressing this "gap", I realized that the way water is viewed by most Coloradans does not match reality and to adequately provide a sustainable water future for 2050 and beyond this "water ethic" must be changed. Thus, I developed the attached position paper. My husband have lived in Colorado since 1996. The first 9 years in Boulder, where I children graduated from High School. Since 2004, we have lived in Summit County and our children remain in the Denver area. In the next several years my husband and I intend to return to Denver to live. Given this, I am able to see the rationale behind each of the basins demands; however, as a realist understand that it is impossible to meet them all while attaining sustainability. This makes the need for a new water ethic critical when devising the Colorado Water Plan."

Documents Submitted for Review: Comments in attached letter

Staff Response: Fracking will be discussed in Subsection 5.6.5 Self-supplied industrial and will be further discussed in SWSI. Fracking currently uses approximately 18,000 acre feet per year, which is a very small proportion of Colorado's overall water use. However, there may be some areas where there are greater regional effects. In addition, power plants that burn natural gas to make energy use less water than traditional power plants. Therefore, from an overall resource management perspective, fracking and the resulting energy production do not consume a significant amount of water compared to current levels. Under Colorado's constitution there is a right to use water for beneficial purposes if it is available. Colorado's Water Plan is not geared toward restricting specific beneficial uses such as fracking. With regard to conservation, the



coloradowaterplan.com

cowaterplan@state.co.us

Direct 303-866-3441

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. If helpful, CWCB staff would be happy to present as part of a Regis University course.

Public Input for Colorado Water Plan

Genia Gallagher

Regis University

College for Professional Studies

This paper represents an analysis of the current structure, policies and procedures of the Colorado Water Plan and will be submitted to the Colorado Water Conservation Board as part of the public input.

The Colorado Water Plan is a bold initiative that recognizes that water is limited in its supply and notably addresses the issue before there is a crisis. The Colorado Water Conservation Board is to be commended on the groundwork assembled and presented in the Statewide Water Supply Initiative (SWSI). SWSI – Phase I (2004), SWSI Phase 2 (2007), and SWSI Update (2010) provide a wealth of information on each of the basins while also revealing the extremely complex issues that face Colorado and its water future. The procedural structure of SWSI and the input from the Roundtables establishes a dialogue, which is important. It also facilitates the acquisition of data from as many stakeholders as possible as well as highlights the conflicting biases that exist between and in some cases within the basins. This is seen in SWSI Update (2010) that indicates, “These recommendations do not necessarily represent a statewide consensus.” (p. 8-1). The resulting recommendations provide an excellent synopsis of the varied options and potential solutions submitted by the Roundtables to meet a projected water gap in the future. A review of these recommendations reflects a focus on supply, such as multi-use projects, IPP (Identified Projects/Processes) implementation, new water supply projects that benefit East as well as West Slope, sources for agricultural demands and funding of projects for new supply or storage. This emphasis on supply continues the tradition established in the early 20th century as the Bureau of Reclamation and Corps of Engineers tamed the rivers in the West and led to the illusion of water’s abundance. Unfortunately most people in Colorado turn on the tap and give no thought as to where the water originates or how much is there. This belief of unlimited supply highlights that the 21st century and beyond presents a different scenario, which is water, in fact, is limited. It also suggests that the values employed when making decisions related to water with regard to its sources, allocation and uses need to be examined and evaluated differently.

Historically, water decisions in Colorado have been made with the belief that water was abundant using values that reinforced property rights, economic considerations, equality of access, development and beneficial use to inform policies and procedures. These are all core values of a democratic society. The devastating floods of 2013 and what appears to be another above average snowpack total in most of Colorado only perpetuate the myth that water will always be available. What complicates this further is the historical tradition of technology delivering a new untapped source wherever and whenever it is needed. How soon the drought of 2002 is forgotten or the unknowns of climate change ignored. Thus, basing strategic water decisions on values that support an illusion of abundance or focusing on solutions that address supply only, does not fully address the problem. Furthermore, the regulatory and legal aspects regarding water need some fine-tuning. The Colorado Water Plan offers a wonderful opportunity to genuinely deal with these issues before a statewide gap occurs; however, this will require leadership and a re-evaluation of how decisions are made.

The allocation of water through the method of prior appropriation provides a key example of an area that needs some refinements. This system clearly presents a solid structure for determining priorities, which is imperative when allocating water. Additionally, the stipulation of “beneficial use” was critical during the development of the state; however, times have changed. This is indicated in the first page of SWSI – Phase 1 (2004);

And yet, the Colorado of our forefathers is very different from the Colorado we live in today.... In 1876, farming and mining were our primary ways of life. Today, these important industries are joined by technology, tourism, recreation, transportation, financial services, and many other sectors that comprise our diverse economy. (p. ES-1)

An example of how prior appropriation may not fit the current situation involves the hesitancy of a municipality to institute aggressive conservation practices that decreases consumption;

thereby, reducing their beneficial use as well as profits. Likewise, a farmer may choose not to implement water efficiency as beneficial use determines the quantity of the water tied to that right. With efficient irrigation systems, the beneficial consumption is reduced and negatively affects the value of the farmland or the water right if sold. Therefore, the concept of “use it or lose it” does not deal effectively with current and future conditions. Prior appropriation presents additional issues as it is based on private ownership, again a very important American principle; however, one that leads to the “Tragedy of the Commons” when faced with limited supply. It is not suggested that the prior appropriation system be eliminated: however, it clearly needs some readjustment.

All the solutions included in SWSI, except drought mitigation and educating for water stewardship, deal with supply. This is understandable as it follows the traditional pattern of dealing with water in the West, especially where supply is not located near demand. This is clearly apparent in the three basins reflecting the largest gaps by 2060 (Arkansas, Metro and South Platte) as they have little to nothing of new in-basin sources of water. Therefore, any new supply will require a trans-basin diversion. Unfortunately, any such diversion enters into the Nine Circles of Dante’s *Inferno* that consists of overlapping and conflicting prior appropriation rights, conditional rights and compact compliance.

Currently, aside from saying that rights prior to 1922 are safe, there is no procedure that addresses how any compact call will be handled. The Bureau of Reclamation asserts in *Reclamation: Managing Water in the West: The Colorado River Basin Water Supply and Demand Study* that due to climate change and increased demand, “the imbalance in future supply and demand is about 3.2 maf by 2060”(p. 9) for the Colorado River. Thus, a compact call is not out of the question. It has already occurred for the Arkansas River and very likely will be

required in the Rio Grande Basin. For any region that is party to a trans-basin diversion to adequately assess the reliability and sustainability of supply such a procedure is a necessity. Furthermore, the fact that neither the South Platte Basin nor the Metro Basin indicate any concern over compliance of the Colorado River Compact in the SWSI reports highlights the importance of this issue. As some of their water rights in the existing trans-basin diversion are both senior and junior in priority to the 1922 compact, what process will decide how the compact call will be met? It is claimed that rights dating before 1922 are not in jeopardy; however, assuming the Bureau of Reclamation (BOR) imbalance is accurate, this claim could be incorrect. With the 3.2 million acre feet imbalance indicated by the BOR, Colorado would need to deliver over 800,000 AFY to meet a compact call. Given this large amount, it is highly unlikely that rights with priority dates prior to 1922 will not be affected. Clearly this impacts the reliability and sustainability for all water rights in the future. It is hoped the Colorado Water Plan will address this issue.

In the end, sources of water and its reliability and sustainability are critical; however, before decisions are made as to how to apportion any unallocated water, it only seems prudent to evaluate how water is and will be used. It is commendable that the Colorado Water Plan supports

- “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
- a strong environment that includes healthy watersheds, rivers and streams and wildlife”

(State of Colorado: Office of the Governor. (2013). *Executive order D 2013-005: directing the Colorado Water Conservation Board to commence work on the Colorado Water Plan.*

p.3.)

However, common sense indicates that it will be impossible to achieve all of these objectives considering projected uses, lack of available new sources and compact requirements as well as the uncertainties of climate change. This being the case, what sector will not be sustainable, viable, productive or robust? How will those decisions be made and by whom? Will the power elite, which Donald Worster refers to in *Rivers of Empire* drive the decision or will it be decided on a fair and “even playing field”? This is critical as this is a statewide issue and local desires cannot be the final arbiter. If these gaps are to be honestly addressed, top–down leadership is required to ultimately determine how available water is to be allocated.

Reporting a gap in the future, by definition reveals either a limited supply or excess in demand. Clearly, when reviewing the categories SWSI has addressed supply in their solutions. Of the 7 types of solutions to the water supply gap, six address supply and represent 90 percent of the proposed gap mitigation. Reuse is the only IPP, which deals with the use of water. An examination of the basins with the largest gaps reveals that reuse accounts for 26 -32 percent of the IPPs in the Arkansas Basin, 10 percent in Metro and 4-5 percent in the South Platte.

In addition, SWSI Update (2010) indicates a 150,000 (acre-feet per year) savings due to passive conservation by 2050, which is factored into the potential statewide gap of between 190,000 and 630,000 AFY. With water stewardship as a goal, the Colorado Water Plan should address water conservation more aggressively. The taboo of raising the price of water is a prime example. With most of the larger M&I (Municipal and Industrial) providers using a rate of less than \$3.00/1000 gallons for a varying level of usage between 6,000 and 11,000 gallons, there is no mystery as to why water is wasted. Compare this price to a gallon of Crystal Geyser Alpine Spring at \$6.39. Clearly, people are willing to pay more for water. As of 2011 the bottled water industry revenues totaled \$11,083,800,000. To maintain that people are not willing to pay more

for water is ludicrous! In Colorado, 1000 gallons of bottled water could cost over \$6000 while someone in Denver pays \$2.68 for the same 1000 gallons. Although the “first drink” or basic necessities must be considered, this continued practice of essentially giving water away does not reflect the reality of a limited supply. Unfortunately, water providers continue their strong resistance to increasing the cost of water; thus, to adequately address this issue will require leadership on the part of the CWCB and the state legislature. This, of course, presents challenging obstacles; however, if the price of water is not elevated to a level that forces people to think about their water usage, the Colorado Water Plan is tilting at windmills.

Additionally, given a limited supply of water, it behooves the CWCB to consider all uses, as clearly, all demands cannot be met. Added to this is the fact that given the need for trans-basin diversions, use in one basin clearly has an impact on other basins. Therefore, decisions on how to use water require more than just the local determination of needs, priorities and desires. Again, local autonomy is an important value, especially in the West. When faced with limited supply it establishes a “win-lose” scenario. One only has to attend a roundtable meeting of any of the basins to realize that in an attempt to acquire or maintain control of the most amount of water possible, future demands are being inflated instead of evaluating how CU (consumptive use) can be reduced.

The need to re-examine water demand is clearly exhibited in a use that requires very little water, which is fracking. As an example, in the South Platte Basin, fracking has been a very contentious issue with some municipalities selling water rights to the oil and gas companies while others issuing moratoriums on new wells. At the same time the state of Colorado is threatening legal actions to overturn these suspensions of new activity. Currently, fracking represents less than 0.1 percent of water used in the state and extraction of oil and gas occurs

only in 4 basins, (Colorado, Southwest, South Platte and Yampa) with the majority located in the South Platte Basin. While the amount of water used is a miniscule amount, the number of issues it raises highlights the importance of the Colorado Water Plan establishing values or guidelines for making any and all decision regarding water.

The Coloradans for Responsible Energy Development (CRED) projects 18,700 AFY (acre-feet per year) will be required for fracking in 2015. Assuming this is correct, the South Platte could potentially use at least half of this amount. This 9,000 to 10,000 AFY covers between 0.5 and 40 percent of the projected gap in the basin.

With this information it seems to be a simple decision, restrict fracking. However, it is not that simple. An Op/Ed in Forbes on December 4, 2013 by Barry Poulson entitled *Weld County, Colorado: Ground Zero in the Anti-Fracking Battle* indicates that Weld County is “the largest producer of oil and gas in the state with 15,000 wells producing more than 10 million barrels of oil annually.” Poulson further states that “Revenue from oil and gas now accounts for more than half of all Weld County’s revenues.” Thus, if it is decided not to allocate water for this use, major investments and jobs are placed in jeopardy. In addition the benefits of cleaner energy and revenues to the state are important considerations.

Interestingly, Sourcewatch.org points out that the Windy Gap Firming Project, currently seeking approval, will divert 30,000 AFY to Front Range communities from the Colorado River. In addition, Source Watch indicates that three of the communities to receive water from this project, Longmont, Greeley and Loveland, sold water for fracking over the past several years. This clearly reveals one of the ongoing conflicts stemming from the fact that over 80 percent of the water is located west of the Continental Divide while over 80 percent of the population resides east of the Divide. But more importantly, raises the question as to whether towns in the

South Platte Basin should be allowed to continue selling water for fracking when the Republican River, located in the South Platte Basin faces increased restrictions on consumption, a relatively certain compact call on the Colorado River and an increased demand for trans-mountain diversions.

Additionally, the current source of water for these deep wells emerges as an issue. According to *Water Sources and Demand for the Hydraulic Fracturing of Oil and Gas Wells in Colorado from 2010 through 2015* prepared jointly by the Colorado Division of Water Resources, the Colorado Water Conservation Board, and the Colorado Oil and Gas Conservation Commission, the **most likely** sources of water for fracking are reusable surface water (which is very limited), reusable treated or raw water from water providers and groundwater diverted from wells completed or to be completed in non-tributary aquifers. All of these sources have the caveat that the water used for fracking can be fully consumed, in other words, not returned to the water supply for reuse. Depending on the source of the water supply for fracking the unresolved issue of environmental contamination, which the EPA is currently studying, emerges. Assuming only accidents or improper installation contribute to contamination, should unconfined or alluvial ground water be adjacent to any well? If fracking uses alluvial groundwater, how does that impact downstream priorities or compact compliance? If unconfined groundwater is used, such as the Northern High Plains or Ogallala Aquifer, how can any “accidents” be controlled or confined?

Currently these three potential sources of the water are used extensively for irrigation and ranching, thus, if a farmer decides to allocate the water rights attributed to the property, it supports the value of private property and also contributes to the economic well being of the rural area. But should an individual property owner have the authority to sell water that is fully

consumed but also needed for downstream irrigators with junior priority rights, jeopardizes compact commitments or diverts water that could be used to meet the future M&I gap? Furthermore, does this increase the need for trans-basin diversion?

One must also consider agricultural transfers when evaluating the issue of fracking. SWSI indicates that between 500,000 to 700,000 irrigated acres may face dry-up by 2050 yielding between 51,000- 73,000 AFY. The South Platte Basin indicates a reduction of 233,000 irrigated acres by 2050 due to agricultural transfers that could yield around 20,000 AFY to meet its M&I gap projected to be between 36,000 and 170,000 AFY. (Although elsewhere, SWSI indicates that with the status quo portfolio, the South Platte Basin could lose 300,000 irrigated acres or 35 percent of their current total.) Interestingly, the yield from the agricultural transfers is almost equal to the amount projected for fracking in 2015.

How does this relate to fracking? Given the lack of available water sources, how many additional acres will experience “buy-and-dry” in Colorado to meet this demand for fracking? The magnitude of this loss has dramatic effects on the environment and on return flows that support compact requirements and downstream senior and junior water rights. This, once again, highlights the need to look at all demand in relation to the regulatory and legal constraints as well all constituents’ economic returns. Even though the entitlement to sell the water right supports the value of private property, in this case, the economic well being of the rural community is negatively affected.

The Executive Order establishing the Colorado Water Plan indicates that the “current rate of purchase and transfer of water rights from irrigated agriculture is unacceptable”. If this is the case, should the additional wells be approved before the Colorado Water Plan is finalized? Even though fracking uses very little water in relation to total water usage, given all the issues raised

and its potential impacts, this is not a decision that should be made by local communities, nor should the state reinforce fracking until the Colorado Water Plan addresses all potential uses.

This, of course, raises the question as to what values should inform any decision on fracking, which means entering a political war zone. Although the economic benefits to both the basin and the State of Colorado, and the prospect of cleaner energy are clearly advantages, there are other issues fracking presents. These include, but are not limited to:

- A city selling water rights to be used for the extraction of oil and gas while also requiring trans-basin diversions, both currently and in the future, for M&I needs; thus, a local versus common good dilemma.
- A right of a private property owner holding a senior right to sell water that could be used to meet downstream needs or compact compliance; thus, an individual rights versus common good dilemma.
- A reduction of an available groundwater source for future M&I needs; thus, an economic versus sustainability and reliability dilemma.
- The possibility of contamination, due to an accident or improper installation in a unconfined groundwater source that affects more than the source well; thus, a economic versus common good dilemma.
 - especially in the High Plains or Ogallala Aquifer
- The environmental impact due to a reduction of irrigated acres with the transfer of agricultural rights; thus, an individual rights versus common good dilemma.
- The possibility of more acreage experiencing dry-up over and above that required for future M&I needs; thus, an economic versus an environmental dilemma.
- A balance of current economic returns versus future growth.

- The reliability and sustainability of water supply for future generations versus an economic dilemma.

Thus, even though fracking currently represents a miniscule percentage of the total water usage in Colorado, the issues it raises and its potential impacts can be found in virtually all decisions related to the reliability and sustainability of our water future. Needless to say these are only some of the complicated issues that require answers before any water is allocated or new sources identified, remembering that these decisions cannot be made using values that historically informed policies, procedures and regulations. This highlights the importance of assessing all uses on a statewide basis given a future of limited supply. Furthermore, it reinforces the fact that local decisions cannot be made in isolation.

Another issue that plagues Colorado on many different levels is the urban versus rural split. According to SWSI Update (2010) agricultural uses account for 89 percent of all water use in Colorado with a downward projection of 82 percent by 2050. This on the face appears a bit biased; as it does not take into account return flows and their importance in meeting compact requirements, especially in the Arkansas, Colorado and South Platte Basins. With that said, SWSI indicates that in meeting future demand the Arkansas, Republican and South Platte (includes Metro) Basins anticipate a reduction of 388,000 irrigated acres by 2050 due to agricultural transfers, which will clearly affect the “way of life” in many rural communities in these areas. On the other hand, the same basins, which are also highly urbanized, reflect the largest gaps as well as largest M&I demand indicate “The urban landscape is very important to the economy and an important component of quality of life.” For instance, Denver Water indicates a total 250,000 AFY of CU of which 48 percent is residential and of that 50 percent is used for outdoor purposes. This amounts to 60,000 AFY. This is one of the most blatant of

ethical issues regarding water demand that confronts the Colorado Water Plan. Which is more important, a “way of life” or “quality of life”? How can we allow a rural community to lose its economic existence while those in Boulder, Denver and Colorado Springs continue watering lawns at a very cheap price?

Once again the need to thoroughly re-examine and evaluate all demands becomes essential before any remaining sources are allocated. Before millions are spent on trans-mountain diversions or billions spent for projects like Flaming Gorge, ways of reducing demand must be addressed. If this is not done, attaining a reliable and sustainable water future is doomed and Colorado will find it is in the same position that California currently faces. Unfortunately this requires strong leadership as it involves entering the political minefield where the power base traditionally looks to trans-basin diversions prior to implementing land use regulations, emphasizing reuse, increasing water rates and implementing aggressive conservation. If the SWSI recommendation of educating for water stewardship is truly a goal, the Colorado Water Plan should serve as a model. The politically expedient approach of trying to meet all of the different needs only works when there is a surplus and unfortunately, Colorado’s future water supply does not meet that criterion. Therefore, to attain a reliable and sustainable water future for Colorado, some difficult political decisions are required.

Regrettably, using traditional values in decision-making will not suffice. This requires a revision of how water is viewed and a evaluation of what values should inform decisions regarding both how water is used as well as how it is allocated; in other words, a new water ethic. Economic returns, quality of life, financial cost/benefits analysis, non-consumptive versus consumptive use, environmental concerns, private property versus “Tragedy of the Commons”, water as a natural resource or commodity, clean energy, or urban versus rural are but a few of the

issues that need to be evaluated and accepted or rejected as part of this new way of addressing water. By recommending a water plan that truly focuses on the future reliability and sustainability of water in Colorado while equitably addressing all issues within a framework of established and realistic priorities as well as demonstrating the stewardship necessary for future generations, the Colorado Water Plan will be a success. This stewardship requires an evaluation of the values that determine how water is allocated, used and sourced. Without a new water ethic based on the understanding that water is limited, future generations will be left to deal with a true water crisis that provides no new supplies, as they would have already been allocated. This would lead to a “quality of life” and perhaps even a “way of life” that no one desires.

The challenge for the Colorado Water Plan is to deal with the problem completely and honestly and resolve the reliability and sustainability of water for future Coloradoans and not wait for the crisis to actually occur, which is the modus operandi for most controversial issues in our country. It is sincerely hoped that the Colorado Water Plan will be different and model water stewardship, by addressing all demand issues before allocating the limited available water. To accomplish this means entering the political minefield; however, if the politically expedient route is adopted, this issue will surface again within the next decade; therefore wasting time and money as well as with many of the options no longer available. If reliability and sustainability for future generations is truly the goal for the Colorado Water Plan, it is imperative that the Colorado Water Conservation Board refocuses the way Coloradoans view water and model the stewardship that is required to achieve the goal. This starts with the CWCB reassessing demand based on the understanding that water is not abundant and confronting the politically difficult decisions necessary to ensure a reliable and sustainable water future that extends beyond 2050.

Cover Sheet for Input Document, Item #52

The document listed 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: April 22, 2014

Input provided by: Eric Hecox on behalf of the South Metro Water Supply Authority

Method of submission: Email to cowaterplan@state.co.us

Summary of Input: Text from email: "Please find attached South Metro Water Supply Authority's input to Colorado's Water Plan. This document was unanimously approved by the South Metro board at yesterday's regular monthly board meeting. Please let me know if you have any questions or if additional information would be helpful. A special thanks to CWCB, the IBCC, and the roundtables for their leadership in this important effort."

Documents Submitted for Review: Comments in attached letter

Staff Response: 1) With regard to agricultural transfers, Colorado's Water Plan will stress the importance of adding additional options to buy and dry. 2) SMWSA's comments were incorporated into the draft Section 5.10 released in May, 2014. 3) CWCB appreciates the hard work SMWSA has done in updating the IPPs. 4) The comments concerning "new supply" are largely consistent with the IBCC's recent discussions. The CWCB will consider the suggested funding mechanisms in Section 6.1. The letter will be passed on to the South Platte and Metro BRTs.

Colorado's Water Plan
South Metro Water Supply Authority (SMWSA) Input
April 21, 2014

South Metro Water Supply Authority (SMWSA) is responding to CWCB's Guidance Document "A Guide for Municipal and Industrial Entities in the Submission of Formal Feedback to Colorado's Water Plan." SMWSA focused its input into Colorado's Water Plan in the four areas listed below. This input is being submitted to CWCB for Board and staff consideration. SMWSA will also work through the Metro Roundtable and the IBCC to integrate these concepts into the South Platte/Metro Basin Implementation Plan (BIP) and Colorado's Water Plan.

1. Agricultural Transfers

After pushing conservation, reuse, and our local water projects (IPPs), any unmet needs in the SMWSA area and the Metro region will be met either through agricultural transfers or development of Colorado River water. SMWSA would like to see Colorado's Water Plan support Colorado's willing-buyer-willing seller system as a way to meet future water needs. The Plan should not simply put in place additional hurdles to agricultural transfers. The plan instead should focus on helping the implementation of Conservation, IPPs, developing new Colorado River Water Supplies, and incentivizing alternative agricultural transfer methods; because, if these solutions are more successful, there will be alternatives to traditional agricultural transfers.

Colorado's Water plan should also discuss the opportunities and limits of alternative agricultural transfer methods, including the need for storage and infrastructure to make these programs work.

2. Streamlined Water Project Permitting Processes

SMWSA offers specific ideas for improving the permitting process (see *Attachment 1*).

3. New and Updated IPPs

During the last round of SWSI our area's local projects ("Identified Projects and Processes" or "IPPs") included: WISE, Chatfield, ECCV Northern Pipeline Project, Rueter-Hess, and other reuse projects. We worked with the BIP consultant to update our regions IPPs.

4. New Supply Projects (i.e. west slope supplies)

As described in #1, the Colorado's front range will meet its future water supply needs either through agricultural transfers or the development of new supplies from the west slope. Although Colorado's Water Plan is unlikely to identify or support a specific project, the Plan should include a conceptual "straw-man" with some specifics of how a new supply concept could benefit the east slope and the west slope. *Attachment 2* is a conjunctive use multi-purpose project concept based on a potential Flaming Gorge Pipeline project and conjunctive use with the Denver Basin Aquifer. This is an example that provides something for others to react to, and should be evaluated and built upon through the Basin Roundtables and planning process.

Attachment 1: Improving Water Project Permitting Processes

CWCB Requested Input

- *Streamlined Permitting Thoughts:* Tell CWCB your thoughts on how this can be done without being pre-decisional or undermining permitting processes.
- The purpose of this work is to fine tune permitting process so that decisions are made more quickly, while not determining whether a water project will be successful or not.
- Input on this item will also inform section 5.8 Streamlined Water Project Permitting Processes in Colorado's Water Plan Draft Annotated Framework.

SMWSA Response

South Metro Water Supply Authority offers the following ideas for streamlining water project permitting processes. These ideas are intended as input to the South Platte/Metro Basin Implementation Plan (BIP) as well as to help inform Section 5.8 of Colorado Water Plan Draft Annotated Framework. SMWSA believes that "fine tune" is not very ambitious and the Colorado Water Plan should encourage a "significant improvement" to a permitting process that is currently an inefficient and time/resources wasting process.

Recommendations Related to the Federal Process

- Conservation as a Demand Reducer: Starting in 2010, the US Army Corps of Engineers (COE), Colorado Department of Natural Resources (DNR including CWCB), and the US Environmental Protection Agency (EPA) embarked upon a process called Collaborative Approach to Water Supply Permit Evaluation (CAWS). The major outcome of CAWS was an agreement among the three parties that conservation should be used as a demand reducer in analyzing the purpose and need for a project, rather than as an alternative to be analyzed during the alternative analysis phase of an EIS. COE, EPA, and DNR including CWCB agreed to this approach, but it was never formalized in an agreement that could be cited if/when an agency or the public requests that conservation be analyzed as an alternative to a proposed water supply project. The Metro/South Platte Basin BIP and the Colorado Water Plan should state that in future water supply project EIS analysis conservation should be used as a demand reducer. DNR should also reengage COE and EPA to formalize this agreement in way that it can be cited in a lead agency's response to comments.
- Joint Review Process: DNR and CDPHE should analyze instituting a Joint Review Process for water projects similar to the Colorado Joint Review Process (CJRP) used in the 1970's and 1980's for energy projects.
- EIS Methods or Ranges of Acceptability: This idea is similar to the Programmatic EIS idea described below, but less formal. CWCB should establish methods of analysis or ranges of acceptability for areas that are typically debated during permitting. These include: hydrology modeling (level of detail, time step), System Risk (reliability criteria, critical drought, safety factors, climate modeling vs drought of record), conservation as a demand reducer (see above), etc. By establishing methods of analysis or acceptable ranges that the state recommends using in an EIS process, CWCB can bring greater consistency and predictability to the permitting process. Lead agencies can point to these standards as justification for the level of analysis they require in an EIS.

- Programmatic EIS: Use the development CO Water Plan as a platform for (or to be done concurrently with) a Programmatic EIS. No specific projects would be approved, but it would create an analysis that future specific approvals can live off of. This can establish efficiency, predictability, and consistency in the permitting process by identifying upfront what the COE will accept and the state/water users can agree to. The programmatic EIS can tackle as many or as few issues¹ as the state would like. But on those issues that are looked at in the programmatic EIS there will be more consistency and predictability for future project specific applicants. COE would be the lead on the programmatic EIS working side-by-side with the state through CWCB.
- Sequencing: Encourage COE and EPA to revise their 1990 MOA on sequencing. Their current MOA says that COE must determine the Least Environmentally Damaging Practicable Alternative (LEDPA) first and then look at compensatory mitigation to authorize the LEDPA. A revision would enable public works projects to use compensatory mitigation in the identification of the LEDPA. This revision could be limited to public works projects to make it more palatable to EPA.
- EPA and Scoping: Encourage COE and EPA Region 8 to enter into a local MOA related to scoping. This local MOA could ensure that EPA identifies their concerns during the scoping process on any water supply 404 permit action that involves a Regulatory-lead EIS in the state of Colorado. This MOA would be an effort to address requirements associated with both the NEPA and 404 statutes. A local MOA would provide efficiency for the COE as the lead agency and consistency and predictability for the applicant, by ensuring that the EPA identify all of their potential issues during scoping. Delays in the permitting process often result when EPA identifies new issues that need analysis late in the process. By ensuring all issues EPA is concerned about are identified at scoping, COE and the applicant can plan time and cost for the analysis and not be forced to do new or additional analysis late in the process.
- Make Scoping Binding: Reform NEPA to make scoping binding. Same arguments as above, but it would ensure that all issues that are analyzed in a permit application are identified during scoping and new areas of analysis are not sprung on an applicant late in the process. This would take a change in federal law. The Colorado Water Plan could encourage our Congressional delegation to work on such a reform.

Recommendations Related to the State Process

- Complete the state processes (401 Cert and Fish and Wildlife Mitigation Plan) earlier so the state can take positions on projects and not be pre-decisional. The State should start their process earlier so the federal and state mitigation analysis and requirements are coordinated. The State should aim to complete these processes in between draft EIS and final EIS/ROD. That way they have the information from the draft EIS to base their decisions on, but they make decisions prior to completion of the Federal processes so the State decisions are meaningful and impactful.

¹ These could include: hydrology framework/platform (level of detail time step, assumptions, etc.), system risk (reliability criteria, critical drought, safety factors, etc.), use of conservation (conservation as a demand reducer as agreed to by the State, COE, and EPA), use of climate models, use rates (standard crop consumptive use, ditch loss, residential, commercial, industrial, etc.),

- The State should integrate their permitting processes with the federal permitting processes under a Joint Review Process described above.
- Allow applicants to pay for consultant help to state agencies - 3rd party consultants similar to how COE does it for a federal process.
- Create a process for permitting direct potable reuse - identify what criteria are needed, technical feasibility, safety, etc.
- Revise the 1041 process to give counties the ability to have input on water projects but not veto authority.
- If criteria are developed for the State to support projects, the criteria should facilitate implementation of water supply projects, and NOT impose additional hurdles or burdens on the applicant.

Attachment 2: Municipal and Industrial Projects and Methods

CWCB Requested Input

- *New Multi-Purpose or Regional Projects & Methods:* In addition to projects and methods you are planning for your own system, ideas for collaborative and multi-purpose projects should also be provided to your Basin Roundtable.
- Input on this item will ultimately inform Section 5.6. Municipal, Industrial, and Agricultural Infrastructure Projects and Methods in Colorado's Water Plan Draft Annotated Framework included in Appendix 1.

SMWSA Response

Below is a collaborative conjunctive use multi-purpose project concept based on a potential Flaming Gorge Pipeline project and conjunctive use with the Denver Basin Aquifer. This is an example that provides something for others to react to, and should be evaluated and built upon through the Basin Roundtables and planning process. Although this "straw-man" is conceptualized around a Flaming Gorge Pipeline project, many of the concepts could extend to other new water supply projects. Section 1 describes the concept and Section 2 provides additional summary information on the Denver Basin Aquifer and the opportunity to use it as a drought reserve.

Section 1: Conjunctive Use Multi-Purpose Project Concept

This description outlines potential elements of a conjunctive use multi-purpose new supply project.² This conceptual "straw-man" project is prepared to test and demonstrate the ability of a project to meet stakeholders' concerns including environmental, recreational, and water users concerns. It could be centered around a number of potential projects such as the Green Mountain/Blue River Pumpback, Yampa Pumpback, Blue Mesa Pumpback, or Flaming Gorge Pipeline with conjunctive use of the Denver Basin Aquifer and interruptible supply agreements in the South Platte Basin.

This description is intended to focus discussions related to new supply development and provide a framework for analysis and feedback. It is anticipated that the substance of a specific concept will change and additional details will be developed over time. This description can help inform recent IBCC and roundtable discussions and ultimately be included as part of a roundtable-to-roundtable engagement within Section 4.8 Interbasin Projects and Methods of the South Platte and Metro's Basin Implementation Plan (BIP).

² Several sources were used to compile this memo including: Prior "Basin of Origin" bills (between 1988 and 2000 the Colorado General Assembly looked at 16 out of basin transfer proposals of which some were compensation/mitigation approaches, some focused on additional requirements before diversion, and two required voter authorization); Reports from the Colorado Water Resources Research Institute on area-of-origin compensation; The South Metro Water Supply Study (February, 2004); SWSI Phase II Section 5 (Addressing the Water Supply Gap); Discussions between the Yampa/White Roundtable and South Platte Roundtable on the proposed Yampa Pumpback Project; SWSI 2010 and the December 15, 2010 IBCC Report; and Basin Roundtable Project Exploration Committee (a.k.a Flaming Gorge Task Force) Phase 1 Report.

As a starting point, the following the elements of a multi-purpose project are described:

- Project Description
 - Water Source
 - Risk Management and Variability
 - Headwater Enhancement
- Overall Benefits of the Project
- Challenges/Issues/Costs of the Project
- Potential Area of Origin Compensation
- Statewide Policy Objectives
- Financing and Governance

These elements are outlined in general terms below. Additional details such as yield (average, firm, and dry), water rights, infrastructure, cost estimates, mitigation, funding, etc. will need to be further developed with additional stakeholder input. In addition, a section at the end further describes the Denver Basin Aquifers as an opportunity for a risk and drought reserve. Including the Denver Basin aquifers as an asset to provide supplies when no project yield is available can be an important element in risk management of Colorado's Compact Entitlement.

The specific elements of projects, mutual commitments, and milestones of progress would be the subject of an exploratory investigation and ultimately negotiation among multiple parties. It is anticipated that should a package of projects emerge as feasible and desirable, commitments would be made in tandem. As potential end users made certain commitments, potential opposers would also make commitments helping to ensure that a new west slope supply project will, in fact, be a fundamental part of "filling the gap" package. This approach needs to provide confidence that Colorado River water supply development will be available for the east slope, thereby providing an alternative to agricultural to urban water transfers.

Elements of a Conjunctive Use Multi-Purpose Project

Project Description:

For discussion purposes, this concept is centered around the Flaming Gorge Pipeline Project. It has been initially screened through a sub-committee, and also been investigated by a variety of agencies over several decades. Much information is already available, reducing the need to gather new data. A group has also begun to coordinate with the US Bureau of Reclamation to review hydrologic analyses and model projections of potential yields and operations. This Conjunctive Use Flaming Gorge Pipeline Multi-Purpose Project contains several major components and is graphically illustrated in Figure 1. The components include:

- 1) **Flaming Gorge Pipeline:** The source of water for the project would be a contract with the Bureau of Reclamation (BOR) for an annual average yield from Flaming Gorge Reservoir of 150,000 + acre feet. The water would be diverted from the Green River through a pumpstation at Flaming Gorge Reservoir. A 400-mile 7-8 foot diameter pipeline would convey this water to the Front Range. The most likely pipeline route would travel along Interstate 80

through Wyoming to Laramie, and then south along the Colorado Front-Range. The pipeline would convey supplies to municipalities in Wyoming and on the Colorado Front-Range in the South Platte and Arkansas Basin.

The overall capacity of the pipeline should include consideration of several opportunities beyond that required to convey 150,000 acre feet for several reasons:

- a. Cost/benefit review of moving additional water under certain hydrologic conditions;
 - b. Potential as a water management tool, capable of bringing water to the Front Range as an alternative diversion method to depletion in the headwaters of the Colorado River. That might position the project as a riparian restoration project as well as a new supply project, and;
 - c. In a fashion similar to the transaction between the Southern Nevada Water Authority and the Arizona Water Banking Authority³, Colorado could perhaps develop underground storage of other Upper Basin state's compact entitlement as a component of risk management and oversize the conveyance system for that type of possibility.
- 2) **Risk Management and Project Variability Strategies:** In 2010, the IBCC agreed that the development of new water supplies from the Colorado River "should be accompanied by a risk management program that ... is integrated with 'triggers' and utilizes other dry cycle sources to fill the gaps when the new supply water is unavailable." Because populations and economies would be dependent upon this new water supply from Flaming Gorge, mechanisms would need to be in place to deal with periodic supply shortages. The IBCC recommended a two-pronged approach: 1) "to put in place an 'early warning' system that shuts down, curtails, or offsets [the new supply project] in advance of a Compact curtailment. The early warning system would be based on hydrologic triggers;" and 2) "the water supply triggers would be coupled with an emergency water bank or other operational scenario that would meet the critical needs of all of Colorado's post-1922 users if a curtailment cannot be avoided."
- a) **Triggers and Dry-Period Sources**
- i) **Triggers:** Hydrologic triggers could include Lake Powell levels, overall storage in the CRSP system, the 10-year rolling average of upper basin deliveries, or some combination. The IBCC notes, "additional work is needed to define which triggers would be used ... and how they would work."
 - ii) **Sources to meet shortages:** Regardless of the triggers, the end users of the project would need supplies that can be used conjunctively with the Flaming Gorge supplies. This is not a new concept for many front-range utilities. For example, the South Metro region recently secured a permanent, but variable, renewable water supply through the WISE Project. In years when no delivery occurs, they will continue to rely on Denver Basin well pumping. Similar strategies could be used to deal with the variability of a Flaming Gorge project and associated triggers.
- (1) Denver Basin Aquifer Conjunctive Use and ASR:** Diversion of water from Flaming Gorge could be tied to levels in Lake Powell or other triggers to avoid compact curtailment. This strategy involves diverting a larger amount of water in wet years for front range groundwater users to store water in Denver Basin aquifers through

³http://www.snwa.com/ws/future_banking_arizona.html

an ASR (aquifer storage and recovery) program to assure sustained productivity. In dry periods when supplies are not available from Flaming Gorge, municipalities with access to the Denver Basin Aquifer would meet their water needs from local groundwater supplies. Through ASR and changing the use of the Denver Basin Aquifer from a base supply to a drought supply, the aquifers can be managed to assure long-term reliability. Additional information on this concept is included in the section below "Denver Basin Aquifers - Our Best Opportunity for a Risk and Drought Reserve."

- (2) East Slope Temporary Ag. Transfers:** Interruptible supply agreements with east slope agricultural water rights could also provide a back up water supply during dry-cycles. An alternative agricultural transfer project could build on the FLEX Market concept and include the temporary transfer of agricultural water rights similar to substitute water supply plans (CRS 37-92-308) and interruptible supply contracts (CRS 37-92-309). It could also include supporting the development of additional storage and infrastructure in the Arkansas and South Platte river basins to facilitate the temporary transfer of agricultural water rights to Front Range municipalities.
- b) **Emergency West Slope Water Bank for pre-1922 Water Rights:** The triggers and dry-sources above would be coupled with an emergency west slope water bank to help ensure the critical needs of all of Colorado's post-1922 users would be met if a curtailment cannot be avoided. As described by the IBCC, "this water bank would utilize the consumptive uses of Colorado's pre-1922 water rights on a willing buyer/lessee–willing seller/lessor basis. The bank could be combined with or include the use of the capacity of existing reservoirs such as Blue Mesa. The concept of such a bank is the effort of a current study by West Slope and Front Range water users."
- 3) **Headwater Enhancements:** This multi-purpose project could include non-consumptive environmental and recreational benefits to the headwaters of the Colorado River system. This could involve exchanges with current transbasin diverters for additional flows in Colorado headwaters and could utilize specifics from the Grand County Streamflow Management Plan and the Colorado Roundtable's Nonconsumptive Needs Assessment. This concept would need to be explored with current transbasin diverters.

Potential Area of Origin Compensation

Through the IBCC and Basin Roundtable process, west slope representatives have said that they would need several commitments before being supportive of this type of multi-purpose project. These included:

- Continued viability of the west slope's regional economy
- Certainty – ensure an increment of water is available for development in each west slope basin
- Front-Range commitment to conservation and reuse
- Environmental mitigation and enhancement

These elements could be met through a combination of water related benefits for the west slope sub-basins and/or socio-economic compensation.

Water related benefits for west slope sub-basins

Even though the diversion may not occur directly in each basin, different elements could be included to distribute statewide benefits, ensure continued viability of the west slope's economy, and provide certainty.

- Yampa/White
 - Infrastructure for irrigation of additional acres in Moffat County (20,000-30,000 acres of land could be irrigated)
 - Water for future municipal development particularly in Steamboat and Craig. Upper basin interests have previously secured 60,000 a.f. subordinations to protect future uses and they have indicated they would want a similar subordination or component of the project.
- Colorado
 - Exchanges with current transbasin diverters for additional flows in Colorado headwaters (Grand County Streamflow Management Plan; Blue River Flow enhancement)
 - Maintain Dillon Reservoir Levels
 - Wolcott Reservoir for future west slope water demands and additional yield to the Grand Valley
- Gunnison
 - Agricultural firming projects in the upper basin (Tomichi Creek, etc.) to help with current agricultural shortages
 - Water quality improvements in the Uncompahgre River and Lower Gunnison (selenium)
- Southwest
 - Financial assistance and support developing their identified projects and processes

Socio-Economic Compensation (Development Fund)

Generally, the most useful form of compensation would be unrestricted monetary compensation to be used by the west slope to compensate unprotected parties and for whatever other purposes its citizenry prefers. Rather than committing to specific projects, a development fund could be established. The money from this fund would be available to provide assistance for future water needs (see above) or other economic development on the west slope.

The fund could be financed in a number of ways as further described below. These financing mechanisms could also be accompanied by a charge placed on users of the multi-purpose project water (perhaps indexed to the current price of water in the South Platte Basin). The fund could be held by the state (CWCB) or potentially by west slope conservation districts or counties. Expenditures would be made against the fund for projects proposed by municipalities, conservancy districts, and other public entities on the west slope. Appropriate expenditures could be solely water related⁴, or appropriate expenditures could include other economic development projects.

⁴New storage projects, repair and rehabilitation of existing water storage and delivery facilities, municipal water systems, improvement of irrigation systems, on-farm improvements resulting in greater efficiency, water based recreation facilities, securing in-stream flows, and other water-related projects.

An alternative, predicated on the pipeline becoming a riparian restoration management tool, would be application of funds in two ways: First, for compensatory projects in the Colorado River basin, and; Secondly, to fund the increased cost associated with alternative diversions of transbasin sources. The first compensation is an early milestone in the process, bringing environmental benefits to the headwaters on the way to project permitting. The second form of compensation, where water providers with low cost, gravity delivery systems accept alternative deliveries, may also be necessary to have the required support for the project.

The major Front Range water providers have invested enormous capital in transbasin diversion structures. That investment yields lower cost water supply for their customers. The offset to the increased cost of alternative delivery might take the form of cash or delivery of more water than could have been historically diverted. The combination of a hold harmless economic approach, coupled with compensatory water stored underground, might be sufficient to garner enthusiastic support for the project.

Financing

In addition to the configuration of the project, the other major outstanding questions relate to how the project would be financed, managed and implemented. Four models could be further explored:

1. Federal/State partnership similar to the Central Arizona Project
2. State water project such as the California State Water Project
3. State/Local partnership where the state facilitates the project, but end users finance and manage it
4. Local/Local partnership similar to WISE and Chatfield as water examples and E-470 as a transportation example
5. Public/Private partnership similar to transportation projects (Hwy 36)⁵

Under any funding model it is most appropriate for use rates and tap fees to be the primary base of funding. This connects the customers with what they are paying for. However, the conceptual package of projects described above will likely also include broader public benefits that are more dispersed than those that accrue to the specific end users of the transmountain diversion project. Therefore broader public funding mechanisms should also be explored. Two funding mechanisms, a "water" mill levy and a Container Fee, are briefly described as examples of how some of the broader public components of this multi-purpose concept could be funded. These funding mechanisms are described in order to demonstrate that broader funding mechanisms could be available if a package of projects is generally agreed to. SMWSA is not advocating for nor necessarily supportive of either method; rather, they are described as possibilities in order to spark further discussion.

⁵ Western Resource Advocates published a report, "Economic and Financial Impacts of the Proposed Flaming Gorge Pipeline" by Honey Creek Resources, Inc. September 6, 2011. The report compares public and private finance approaches. The report does not consider a public-private partnership.

Finance - "Water" Mill Levy

- A two (2) mill property tax on the nine largest front-range counties will generate about \$107 million/year. (Adams \$9m; Arapahoe \$15.2m; Boulder \$11m; Denver \$20.2m; Douglas \$8.6; El Paso \$11.6; Jefferson \$14.4; Larimer \$7.6m; Weld \$9m). As a point of comparison most fire districts collect an 8+ mill. An additional two mills might incentivize linking land-use planning and water supply planning in the "Big 9."
- One (1) mill, or about \$54 million/year could help provide water and economic development for the west slope. This could be done through a "Development Fund" as described above or it could be divided between the west slope counties.
- The other (1) mill or about \$54 million/year could help fund construction and operation and maintenance of the multi-purpose project, including headwaters exchanges.
- As a point of comparison, the 2009 General Fund Revenue for the following counties - Gunnison \$10.388M; Montrose \$10.1M; Logan \$4.5M; Garfield \$28M; Otero \$1M (estimate) - approximate what this fund could generate.

Finance – The Container Fee Ballot Initiative of 2010

In 2010, two citizens filed a Ballot Initiative seeking a fee on beverage containers sold in Colorado. Unofficially captioned "Container Fee to Fund Water Preservation and Protection" by legislative staff for tracking purposes, the initiative was heard by the Ballot Title Setting Board at its hearing April 21, 2010. The minutes of that hearing document that the legislative staff determined such a fee would generate approximately \$100 Million per year in revenue.

The Title Board's opinion setting the initiative title for the ballot was appealed to the Colorado Supreme Court. The basis of the appeal was that by naming the Basin Roundtables specifically (the funds were to be allocated in part based on roundtable approval of grants), the initiative was not a single subject. The Supreme Court granted the appeal. Given the timeline of the Colorado Water Plan, consideration could be given to a similar ballot initiative in November, 2015. The funds generated could go immediately to riparian restoration projects with future use for compensatory offsets. In the long run, the funding stream would support project development, permitting and eventually debt service.

Overall Benefits of the Project

- Front-range municipalities get an increment of high quality reusable water.
- New water supply development minimizes loss of irrigate acres in South Platte and Arkansas Basins. Transfers of east slope agricultural would no longer be the dominant strategy for meeting front-range water needs. East slope agriculture could participate in the project and receive additional yields (either directly or through "second use" of fully consumable return flows).
- Acceptable water quality that does not require advanced water treatment and may be used to blend with lower quality South Platte supplies.
- Allows development of new water supplies and utilization of Colorado's compact entitlements while protecting recreation, environmental flows, and future economic development on the west slope.

- Depending upon the location of the diversion it could diversify the state's M&I water supplies. The CRWAS indicates that climate change impacts are less severe in northern basins such as the Green River. Adding a more northerly water supply, and a basin other than the Colorado mainstem, would diversify the state's M&I water supply and could mitigate potential risks from climate change.

Challenge/Issues/Costs of the Project

- Potential endangered fish and depletion issues downstream of the diversion would need to be analyzed.
- May require enlargement or construction of additional storage in the South Platte or Arkansas basins. This storage could be surface water storage or underground storage.
- Additional cost analysis of the various component of the package of projects will be needed. This will include, but not be limited to, the cost of equipping existing wells for ASR, implementing a regional ASR program, and comparing the costs of ASR with above ground storage.
- Complexities of water right administration in the event of a compact call.
- Although the Colorado Compact recognizes the right of one state to move water through another state, there will likely be a need for an agreement with Wyoming, perhaps Utah and perhaps between all four Upper Basin States.

Statewide Policy Objectives

- Safe reliable drinking water supply for all Colorado citizens
- Conservation – the project can include elements to require or encourage different conservation measures
- Reuse – the project can be configured for maximum utilization of fully consumable water either through M&I reuse or “second use” by east slope agriculture
- Maximum utilization of the state's Colorado River Compact entitlements
- Environmental and recreational preservation and enhancements

Section 2: Denver Basin Aquifers

Our best opportunity for a risk and drought reserve

Existing Groundwater Conditions

Denver Basin Aquifers (Laramie-Fox-Hills, Arapahoe, Denver, and Dawson) comprise a huge groundwater storage reserve immediately beneath much of the central Front Range. The aquifers extend from roughly Greeley on the north to Colorado Springs on the south, the Foothills on the west, and the eastern boundaries of Adams, Arapahoe and Douglas counties on the east, comprising around 6700 square miles. The combined aquifers hold over 450 million acre-feet of water, and over 250 million of that may be economically pumped (see Figure 2). Wells have been drilled and can produce up to as much as 1000 gallons per minute (gpm).

Historically, the South Metro area has relied almost exclusively on this non-tributary, nonrenewable groundwater supply. Estimates are that approximately 38MAF of recoverable water exists under the South Metro area. However, recent work reinforces previous observation regarding steady rates of aquifer declines. The 2013 Douglas County Rural Water Supply System Feasibility Study included a comparison of USGS groundwater modeling, measurements in active wells, and CDWR investigation of Denver Basin aquifer levels. The USGS modeling predicts a -1 to -5 feet per year average annual groundwater level decline and the CDWR investigation predicts a -5 to -13 feet per year decline. South Metro water providers continue to experience declines in aquifer levels and the cascading reduction in well yields described in Figure 3.

Given the historic, current, and predicted declines in aquifer levels, the volume of Denver Basin Aquifer production will have a future economic limit which is likely to fall short of urban demands. Numerous studies between 2004 and 2013 all suggest that costs associated with continued reliance on non-tributary, nonrenewable groundwater are expected to be comparable or higher than costs for developing a regional renewable water supply system, thereby providing appropriate incentive to import renewable supplies that can be used conjunctively with the Denver Basin Aquifer.

Future Scenarios for Denver Basin Aquifer Groundwater Use

There are two likely scenarios for South Metro entities involving future use of Denver Basin groundwater: the first scenario is the status quo use of non-renewable groundwater supplies at increasing cost due to declining well production capacities. For the reasons discussed above and further detailed in Figure 3, this scenario is generally unacceptable as it is an expensive and non-sustainable model.

A second – preferable - scenario is a large-scale conjunctive use plan involving development of renewable supplies and implementation of a robust wet-year aquifer recharge program in which reliance on Denver Basin Aquifer groundwater is primarily as a drought supply. While efforts to increase renewable supplies are currently underway, formalization of a significant conjunctive use plan involving a new transbasin diversion is urgently needed.

Such a conjunctive use plan can operate largely through existing and planned infrastructure. Water providers in the southern metro region rely on multiple wells for their water supply, and have constructed infrastructure connecting them with community water distribution systems. There are around 150 municipal supply wells in Douglas County alone. Recently, the WISE project included plans to link these service areas over the majority of the region. This will provide a water link both internally and to sources of renewable water from outside the region. The opportunity to recharge the Denver Basin Aquifers and a large-scale conjunctive use project is here.

Current annual well production in the area exceeds 40,000 afy (acre feet per year), which corresponds to an average rate of 35 mgd. Assuming the majority of wellfields are sized to meet summer demands and typically triple the average rate, there may be over 100 mgd of peaking capacity available in off-peak periods. With proper equipping and treatment capacity, a significant volume of renewable water could be supplied to the Denver Basin in wet periods for use during droughts.

A rough approximation of rates of flow into the aquifers can begin with the assumption that typical provider demands in the summer are sized for triple that year round rate, or 105 mgd in the aggregate. This leaves an average of up to 70 mgd in off-peak months. If off-peak demands are met with imported water making wells available for recharge, this rate could be returned to the aquifers for a total ranging between 25,000 and 45,000 af per year. Specific rates and durations of flows would be examined in detail during the feasibility review process. Generally, the initial projections affirm the potential viability of this concept.

The potential of a conjunctive use approach to integrating local non-tributary groundwater supplies and storage with interruptible surface water supplies from the South Platte and West Slope drainage basins was outlined in the State of Colorado's Metro Water Supply Investigation, Final Report (Colorado Water Conservation Board, 1998). Subsequently, the South Metro Water Supply Study (prepared for the South Metro Water Supply Study Board in February, 2004) carried the concept further through a joint effort between the Douglas County Water Resources Authority, Denver Water, and the Colorado River Conservation District.

Conjunctive Use is characterized as "The coordinated use of surface and groundwater resources and facilities to produce a larger, more reliable and cost effective combined water supply that could be generated from either source alone." (SMWSSB, page 1-12)

Centennial Water and Sanitation District in Douglas County has operated a conjunctive use plan since the early 1980's and an aquifer storage and recovery project with Denver Basin deep wells since 1992. The technology and recharge operation have met no significant impediments after over 20 years of and over 14,000 acre-feet of treated potable water back into the aquifers. South Metro WISE participants are currently evaluating the feasibility of expanding this operation with future WISE deliveries.

To date, many water suppliers along the Front Range who rely on deep bedrock aquifers have not been able to capture wet year supplies. With the addition of WISE Project infrastructure and Parker's Rueter-Hess Reservoir, the South Metro Area will soon have necessary infrastructure for a

large-scale conjunctive use program. A large-scale conjunctive use plan could bring renewable surface water into the South Metro Region by utilizing:

- Interruptible raw water deliveries from existing transbasin diversion systems, Flaming Gorge, or another new transbasin project.
- Deliveries only in wet periods of low-risk hydrologic and administrative conditions.
- Distribution to existing deep aquifer wells equipped for recharge.
- Dry period use of reliable, drought-proof deep aquifer production to provide water when surface yields are not available.
- No increase of risk to yields controlled by partner entities.
- Protecting the integrity of the Colorado River Compact under a working cooperative operation.

This concept has been investigated and described for over 15 years (if not longer) by key parties who would potentially be involved and is now worthy of serious consideration by the IBCC and the CWCB through Colorado's Water Plan. This concept is recommended for further investigation and a role as a practical and viable means to manage Colorado's statewide water resources. It should be vigorously pursued in subsequent stages of the Colorado Water Plan.

Figure 1: Conjunctive Use Flaming Gorge Pipeline Multi-Purpose Project Conceptual Illustration

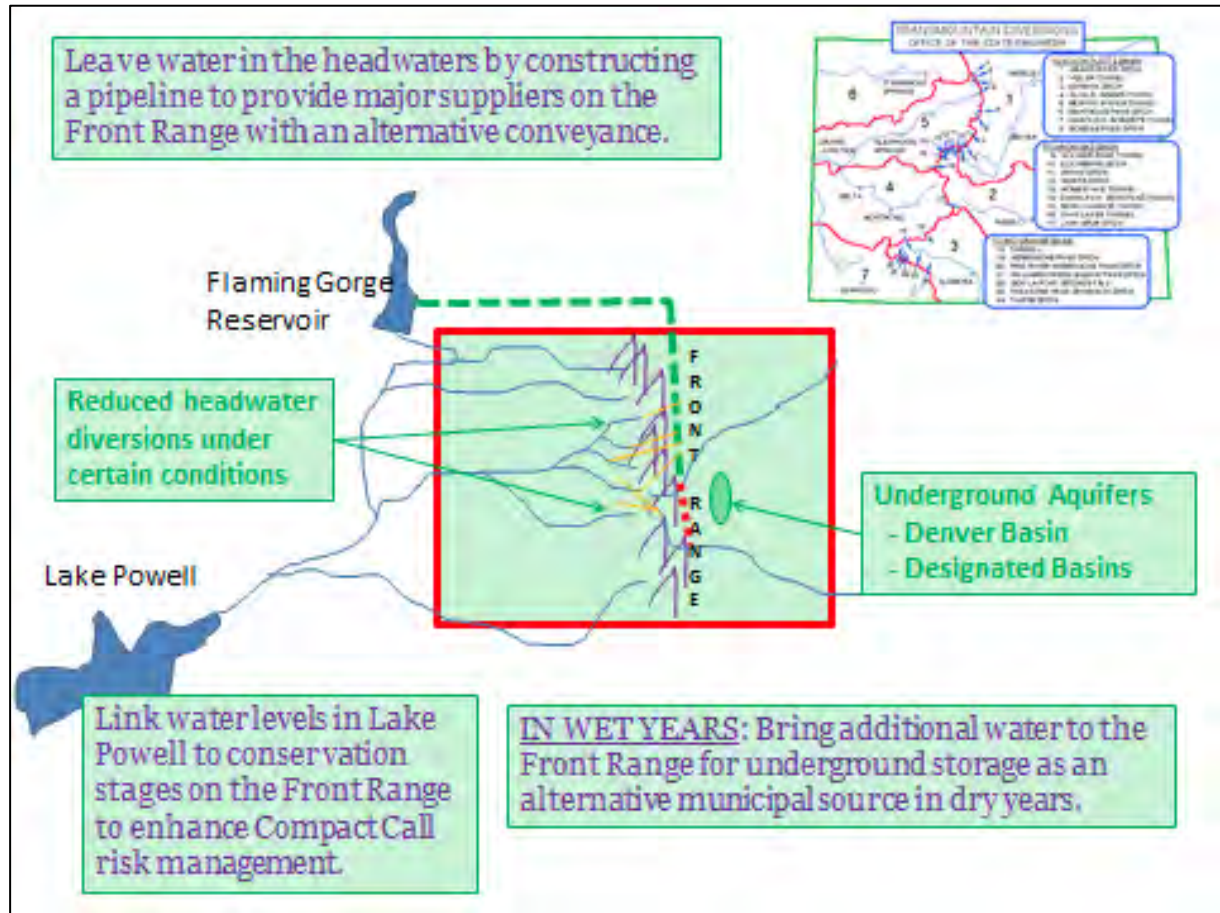


Figure 2: Denver Basin Aquifer

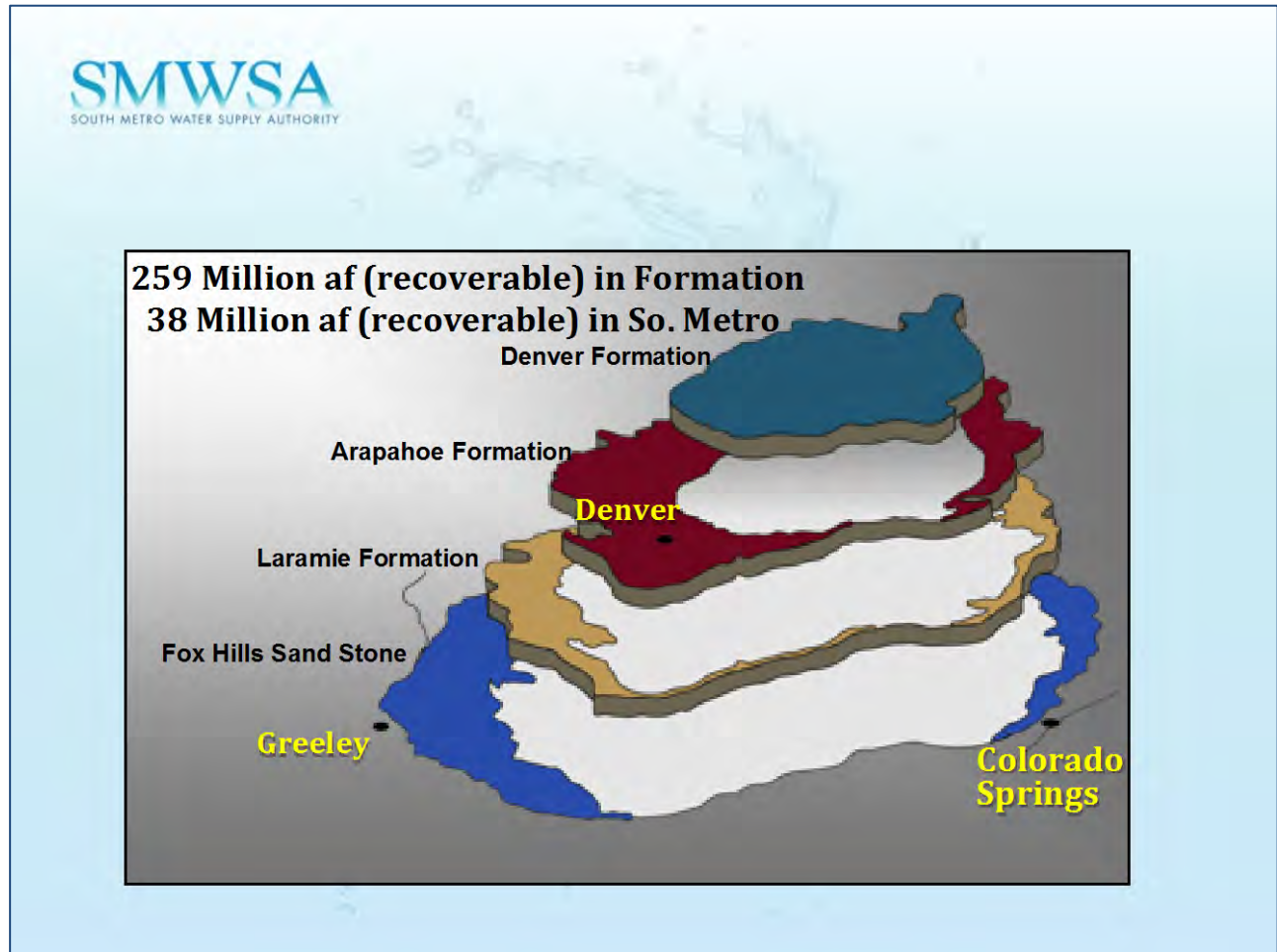


Figure 3: Dropping Artesian Pressure and Cascading Reduction in Well Yields

DROPPING ARTESIAN PRESSURE

Artesian pressures dropped in the Denver Basin aquifers as soon as widespread pumping began more than 100 years ago. And, it will continue to happen in response to pumping because of the unique hydraulics of the basin.

Back in the 1970s and 1980s when scientists, engineers, lawyers and others were struggling to come up with a set of rules to regulate pumping in the Denver Basin, the drawdown of water levels (artesian head) and potential injury to some wells owners was understood as inevitable.

And over time, dropping artesian pressures has made extraction of water less efficient and more costly in some areas. Artesian pressure assists well pumps by reducing the total elevation the pumps must lift water. But with declining water levels, larger pumps and motors, as well as increasing energy usage will be required to produce the same amount of water. This problem has already started to occur in some south metro areas of the basin that are being drawn down by municipal pumping.

Economic Considerations

At the end of the day, the amount of water available from the Denver Basin may be limited by economics, as much or more than by state regulations or the amount of water in storage.

While it may seem that giving a resource a 100-year or even 400-year life is short-sighted, some also see it as an important compromise that allows development of the south metro area, while buying time for those same developments to generate the revenues needed to acquire renewable water supplies—or encourage annexation of developments by municipal providers.

This interim use/revenue generating concept, however, does not necessarily factor in all the complex political, social, economic and environmental issues associated with the development of re-

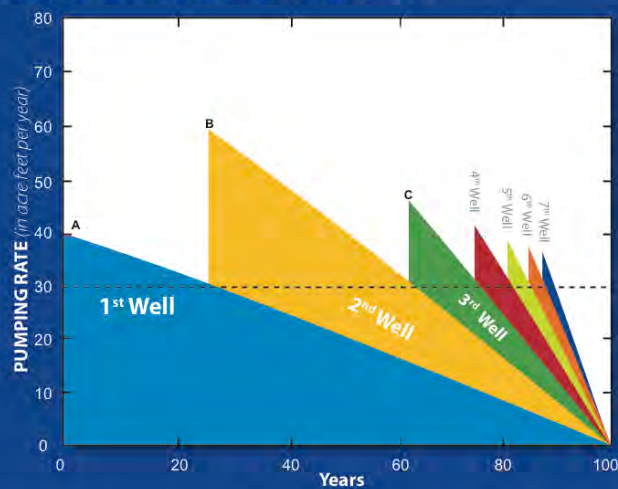
newable water resources. The acquisition of new water supplies is not simply a financial transaction.

It is likely that economics will prevent the Denver Basin aquifers from being completely exhausted. Over time, large-capacity pumping may become so expensive that it simply becomes too costly to drill more wells or to keep pumping existing wells with diminishing returns.



Artesian pressures dropped in the Denver Basin aquifers as soon as widespread pumping began more than 100 years ago.

CASCADING REDUCTION IN WELL YIELD



To illustrate the cascading reduction in well yield and requirement to drill more and more wells to maintain a specific production requirement, we reference an example from the US Geological Survey.

Assume that well A produces 40 acre feet per year when initially completed, and it experiences a fixed rate of water level decline that causes the aquifer to be dewatered in 100 years. If the required application needs 30 acre feet per year, well A needs to be augmented in 25 years. So we drill well B, and the combined yield of both wells far surpasses our fixed yield, but the combined well yield decreases more rapidly. In another 27 years a third well (C) is required to maintain the required production capacity. With three wells operating we again exceed our water need, but due to declining water levels and well-to-well interferences it will only be 13 years before a fourth well is needed. You can see from the graph above that this sequence will continue at an ever increasing frequency even though the water level is declining at a constant rate.

In this example, if the cost of constructing and equipping each well is \$ 500,000 then the water cost for the first well is \$267 per acre-foot. Because of reduced total production as more wells are added, the water cost for the sixth well is \$13,500 per acre-foot. This simple example does not include increased operation expenses. Clearly the economics of relying on non-renewable groundwater supplies as a primary resource are not favorable in the long-term.

Cover Sheet for Input Document, #53

The document listed 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: April 22, 2014

Input provided by: Kevin McCarty on behalf of the Little Thompson Watershed Restoration Coalition

Method of submission: Email to Chris Sturm, Rebecca Mitchell and Sean Cronin; forwarded to cowaterplan@state.co.us

Summary of Input: Text from email: "I have authored the attached document on behalf of LTWRC. While this document comes off as critical of planning efforts as it relates to our watershed, it is not directed at any particular party. In fact, I think the lack of involvement in the state water planning efforts by water users within our watershed makes us as culpable as anyone, including me. I deal with water rights in my job and it has taken this flood and the subsequent planning efforts to understand a lot of the details about the water supply issues confronting this watershed. But, at this point we are just scratching the surface on water use and water supply issues and further study is warranted. Tetra Tech will be providing some basic hydrologic information as part of their master plan, but it doesn't appear it will go into the level of detail necessary to fully understand issues such as the impact exempt wells may be having on surface water flows (among other areas of study). Their scope of work certainly does not cover exploring water supply alternatives such as in stream flow potentials, possible reservoir sites and how NCWCD could fit into the water supply picture. I would ask CWCB's opinion on what strategy we might want have if we apply for an additional grant to include water supply planning as part of our master planning effort. I know a lot of these master planning efforts, including ours at this point, are focused on the river and riparian area and not on water use and supply. However, it is hard to think about restoration of the Little Thompson without considering the serious water supply issues which exist here."

Documents Submitted for Review: Comments in attached letter



coloradowaterplan.com

cowaterplan@state.co.us

Direct 303-866-3441

Staff Response: We appreciate calling attention to the issues in the Little Thompson Watershed and suggest that the commenter seek a Water Supply Reserve Account grant through the South Platte Basin Roundtable. Partnerships such as with the Northern Colorado Water Conservancy District often help applications be successful. CWCB staff will pass this on to the South Platte BRT.

STATE WATER PLAN COMMENTS

Provided by the Little Thompson Watershed Restoration Coalition

April 22, 2014

OVERVIEW

The September 2013 floods ravaged the Little Thompson River watershed with unprecedented flows, sometimes exceeding 15,000 cubic feet per second. The ensuing debris clean-up and the looming restoration challenges are being confronted by the Little Thompson Watershed Restoration Coalition. The Big Thompson Conservation District is sponsoring the Coalition and critical funds for a watershed master plan have been provided by the Colorado Water Conservation Board.

Tetra Tech has recently been hired to develop a master plan for the watershed and during the process of defining their scope of work, the issue of water supply planning has come up. While the CWCB grant and Tetra Tech's mission is centered around debris removal, bank stabilization and recovery of riparian areas, it is difficult to consider the future of the Little Thompson watershed without addressing the serious water supply issues that exist in this watershed.

As Coalition members, we have all begun to realize how underappreciated and unrecognized our watershed is. Even though this watershed covers over 200 square miles with 47 miles of the main stem, plus two primary tributaries, there has been little attention paid to the watershed and almost no scholarly investigations. This is in spite of the fact, the river is an important source of domestic and agricultural water and historically had significant recreational uses. Some of the neglect is reflected in the following deficiencies in the ongoing statewide water planning as follows:

- The Little Thompson River never shows up in the SWSI text
- Gap Analysis does not address existing or future domestic water use in the watershed.
- The Little Thompson River is the only significant South Platte tributary on the Front Range without any in-stream flow rights.
- Many specific South Platte Basin projects are identified in SWSI, but none of the projects are within the Little Thompson watershed.
- No studies have been conducted analyzing the impact of exempt wells on surface water in the watershed.
- The Little Thompson watershed has no representation on the South Platte Basin Roundtable.

To further complicate matters, the District 4 Water Commissioner position (including both the Big Thompson and the Little Thompson) is now vacant.

Now that Coalition members are beginning to take stock of the water supply conditions on the Little Thompson and the lack of any consideration for our watershed in the State Water Plan, we realize it is time to bring attention to our situation. The watershed description found later in this document was included in our RFP for the watershed master plan and it has been included here to help educate roundtable members, government officials and other interested parties.

Besides being a neglected river, the best way to describe the Little Thompson is that it is an impoverished river. Development in upper portions of the watershed has exceeded available water supplies and this has created a situation where Pinewood Springs has some of the most severe permanent water restrictions in the state. As drought conditions have persisted in recent years, agricultural water users have seen less water and some stretches of river which were formerly good for trout fishing have periodically dried up. This has taken place under the radar in the midst of this ongoing statewide water planning effort.

While it is hard to say anything good has come out of the September 2013 flood, one thing it has done is bring the neglect of this watershed to our attention. Hopefully, this has happened in time for some effort to be put into water supply planning for the Little Thompson before the State Water Plan is finalized. There are some possible solutions which could help the water starved residents of Pinewood Springs, the landowners whose fishing spots have gone dry and the irrigators who have seen their water supplies diminished.

Almost all of the native water rights originating from the Little Thompson River are still within the watershed and being used agriculturally. That is saying something in the South Platte Basin. While these water rights do not amount to a large volume of water, it is a significant volume of water for our watershed. Because this water is still within the watershed, it may represent some potential which may not exist forever.

A second important possibility for the watershed is the existence of the NCWCD water pipeline carrying water from Estes Park to Pinewood Lake, which passes through the edge of the watershed. This may represent certain possibilities in terms of NCWCD water, Windy Gap water or exchanges.

There may be some potential for in-stream flow rights directly bypassing existing headgates or possibly through exchanges.

Finally, there may be some possible reservoir sites in upper portions of the watershed. Given the needs of this watershed, a study of multi-purpose reservoir sites addressing flood control, domestic, agricultural and recreational uses would seem to be an important step in analyzing water supply alternatives.

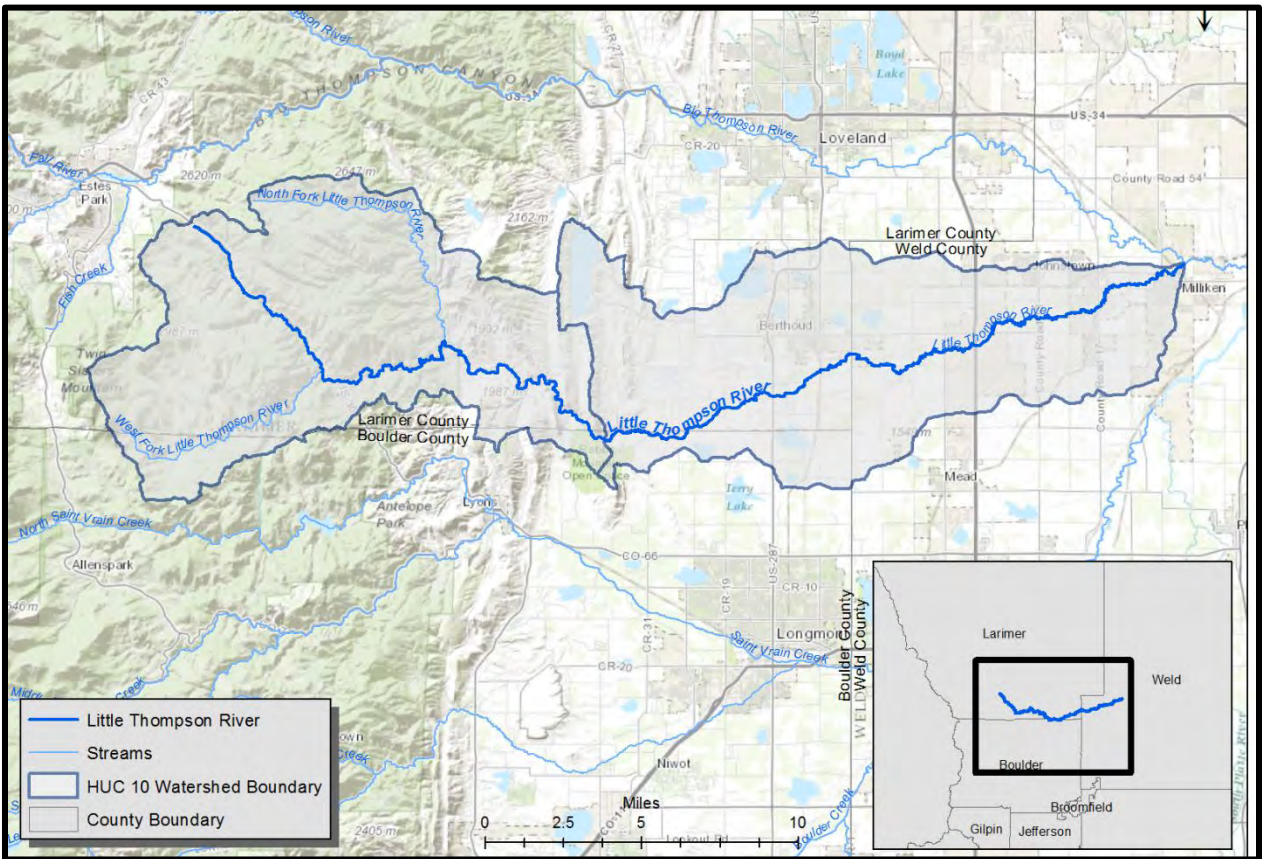
In conclusion, our Coalition feels that to date the state water planning efforts have failed our watershed. We have serious water supply problems and there has been no attempt during this planning process to study possible solutions, even though there may be available alternatives. In fact, because the agricultural water rights in the watershed remain largely untouched by domestic water providers, we may actually have a window of opportunity. That window of opportunity will not be available forever. In fact, a domestic water provider recently acquired a few shares in one of the primary ditch companies in the watershed.

Our suggestion is that it is time to conduct significant water supply planning research on the Little Thompson River. It is important not only to be a part of the State Water Plan, but also because of the fact that our window of opportunity will be closing the longer we wait.

In conclusion, the Little Thompson watershed has serious water supply problems affecting domestic, agricultural and recreational water users. These water supply issues also have negative environmental consequences. The “gap analysis” that is being presented as part of the State Water Plan is not some vague concept that could take place in the future for Pinewood Springs residents or other Little Thompson water users. The “gap” is here today.

DESCRIPTION OF WATERSHED

The Little Thompson watershed covers approximately 203.7 square miles in Larimer, Boulder and Weld Counties, Colorado. The river’s two primary tributaries are the West Fork, which merges with the main stem northwest of Pinewood Springs, and the North Fork which joins the main stem northwest of Lyons. The main stem extends a total of 47 miles, including 25 miles across the plains in an east northeasterly direction before reaching its confluence with the Big Thompson River at the northwest edge of Milliken. The Big Thompson then reaches its confluence with the South Platte River a few miles to the east. The highest elevation in the drainage is 11,427 feet above sea level on Twin Sisters compared to 4,733 feet at the Big Thompson confluence.



Little Thompson River Watershed

The North Fork originates in the extremely rugged terrain of the Roosevelt National Forest. The highest elevation of the North Fork is 9,255' on Panorama Peak. There are scattered private in-holdings in the North Fork drainage, but very little development and no public roads. There are various named tributaries such as Devil's Gulch and Hell's Canyon, tending to indicate the severity of the topography. As an example, Hell's Canyon is a 1,500 foot deep box granite canyon. The North Fork flows for about 11 miles before its confluence with the main stem.

West Fork tributaries are at a higher elevation than the North Fork, going further west and reaching over 11,000 feet on the east flank of Twin Sisters. U.S. Geological Service maps identify the West Fork as being approximately 7 miles long before its confluence with the main stem northwest of Pinewood Springs. Both the West Fork and the North Fork watersheds are largely composed of Forest Service land, although each has areas of private ownership, particularly on the river.

Most of the land within the two tributaries and on upper reaches of the main stem is ponderosa pine forests, with some lodgepole at higher elevations. Beetle kill is evident, although because these are ponderosa forests, the level of damage is not as great as can be found in Lodgepole forests. There has been some fire damage, most notably the Big Elk Meadows fire in 2002. However, the Little Thompson drainage avoided the High Park burn as well as the Bobcat Gulch fire.

The West and North Fork drainages are the primary water sources for the Little Thompson River and much of the water comes from runoff through precipitation events. Unlike high mountain drainages such as the St Vrain and Big Thompson, the Little Thompson does not have significant snow melt other than short term snow melt immediately following snow events, particularly large spring snows. In addition, the Little Thompson drainage is about 1/3 of the size of the Big Thompson drainage. There are a considerable number of springs in the upper reaches of the Little Thompson drainage. However, flow volumes from these springs vary and can be very limited during drought periods.

After the North Fork confluence at 5,770 feet, the Little Thompson flows easterly through the east edge of the foothills, emerging on the Plains, to the southwest of Berthoud near the Larimer/Boulder County line. A limited amount of surface water is picked up during this stretch. In fact, there are no significant tributaries to the Little Thompson after the two major tributaries meet the main stem. Dry Creek does drain a fairly significant area, meeting the main stem to the south of Berthoud. Since the reconstruction of Highway 287 Bypass to the west of Berthoud, continuous flow now comes into the Dry Creek from drainage and seepage from Welch Reservoir, although this is dissipated when the Welch Lateral is operating and running during the growing season. This winter drainage is minimal with less than 1 cfs flow and drops into the river below the Osborne/Caywood Diversion.

Data on flow rates in the Little Thompson River is very limited. Older flow data is available for two stations from the US Geological Survey, but the lack of data is noticeable compared to the main stem of the Big Thompson and other better known Front Range rivers. Those flow rates suggest a river that typically runs less than 50 cfs on lower stretches of the river. Area residents report that the main stem of the river does go dry in stretches.

Land and Water Use in the Watershed

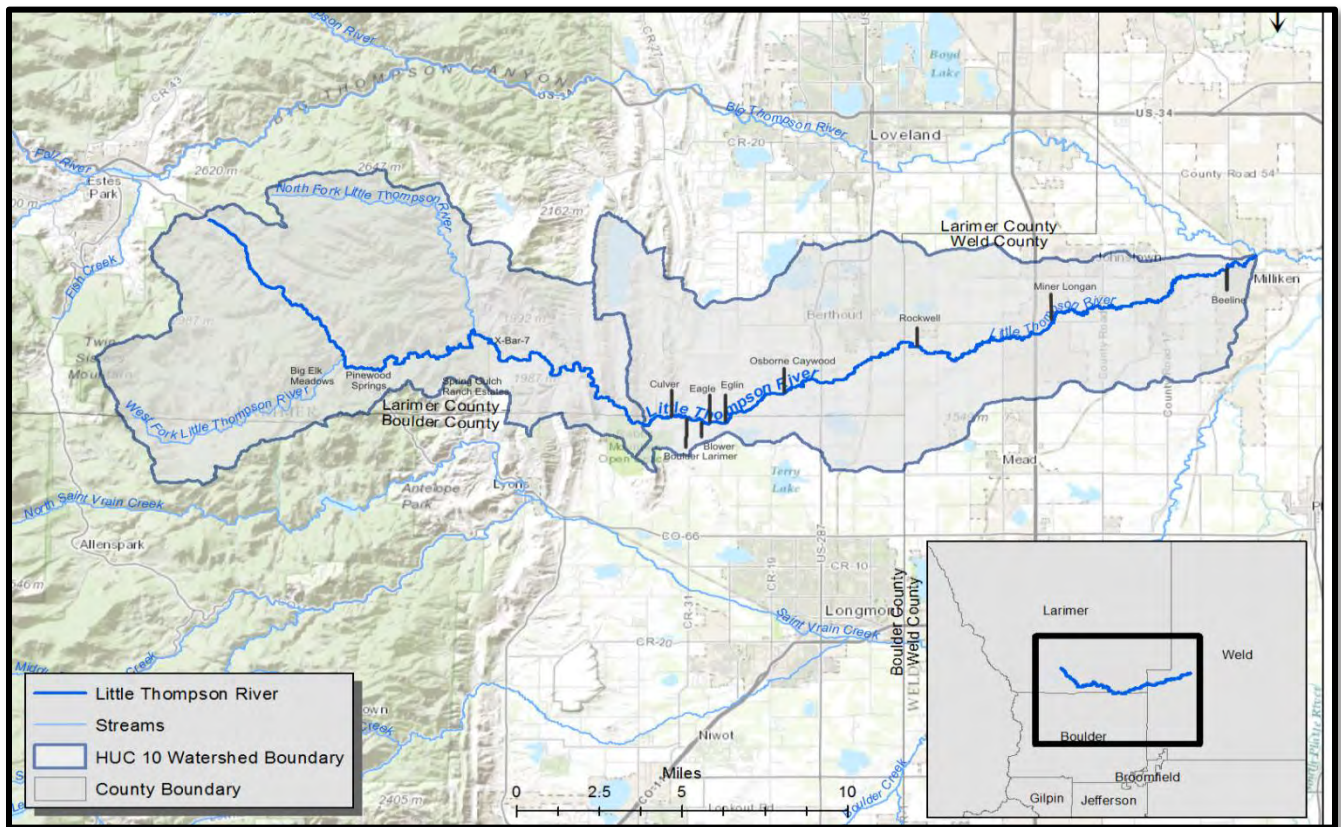
Big Elk Meadows is a rural community on the West Fork, located west of Highway 36 and northwest of Pinewood Springs. Pinewood Springs is an unincorporated community on Highway 36, situated on the main stem of the Little Thompson. Highway 36 is the only highway which goes through the Little Thompson drainage in the mountains. The highway follows the main stem for approximately five miles. However, unlike every other major stream on the Front Range, the Little Thompson does not have a parallel highway as it flows towards the Plains.

Pinewood Springs residents historically relied on well water and in recent decades, the Pinewood Springs Water District has supplied water. This includes diversions out of the Little Thompson into Crow Lane Reservoir. There are a total of 320 platted lots in Pinewood Springs. Water restrictions within the District are extreme, limiting residents to 6,000 gallons per month, with no outside watering.

Estes Park Estates adjoins Pinewood Springs. The 100 lot owners within that subdivision rely on wells. Lot sizes in both Pinewood Springs and Estes Park Estates range typically range from one to five acres.

Big Elk Meadows, with about 165 homes, is located to the west of Highway 36. This unincorporated development had a series of reservoirs on the West Fork, prior to all of the reservoirs failing in the September 2013 flood. Water is supplied to this community by the Big Elk Water Association, utilizing augmented wells to fill reservoirs which are used for irrigation and domestic use. Lot sizes in Big Elk Meadows range typically range from one to five acres.

A notable development located near the confluence North Fork is the X-Bar-7 Ranch which is mostly in a fairly broad, treeless valley. X-Bar-7 has a number of 35 to 40-acre and larger lots. The X-Bar-7 development relies on individual domestic wells, and in a few cases, hauled water. Spring Gulch Ranch Estates is a 126-lot development consisting of 2 to 5 acre lots located near the inter-stream divide between the St Vrain and the Little Thompson. Most of the lots support homes, all of which rely on well water. While much of the development is in the St Vrain drainage, the aquifer potentially impacts the Little Thompson drainage.



Notable Water Users, Little Thompson Watershed

There is a considerable amount of rural residential development on and near the Little Thompson River to the south and southwest of Berthoud. Some of this development is on septic systems while other subdivisions have their own package sewer plants. Municipal effluent releases into the Little Thompson come from Berthoud (near the Larimer/Weld County line) and Johnstown (just before the Big Thompson confluence). Water is supplied by the Little Thompson Water District throughout the Little Thompson drainage on the Plains. This district relies on trans-basin water and does not currently draw on water from the Little Thompson drainage.

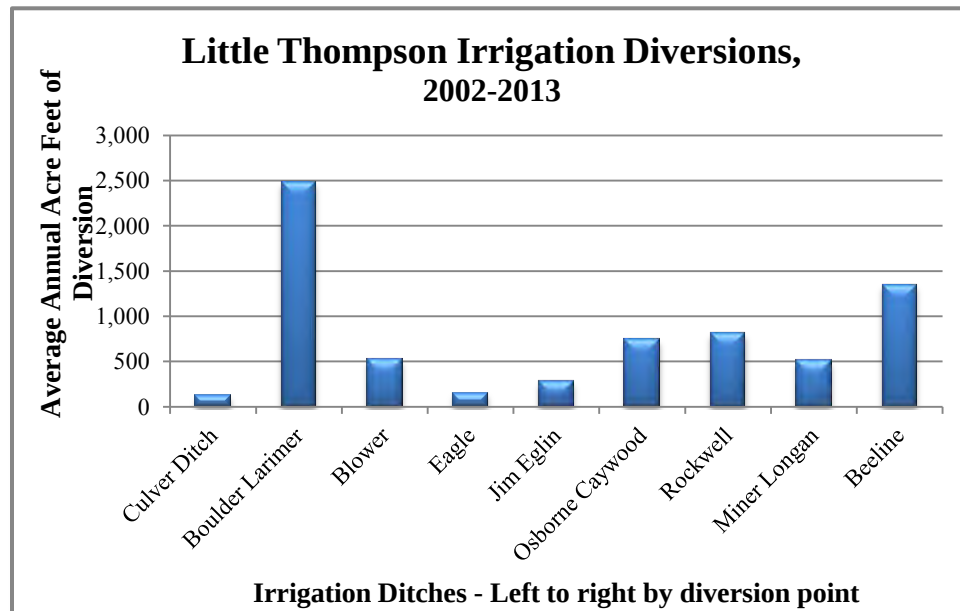
The only urbanized areas within the watershed are Berthoud, Johnstown and Milliken. Other than Pinewood Springs, which is unincorporated, there is currently no urban development along the river. There is some potential for urban development on lower stretches of the river, particularly on land annexed to Johnstown and Berthoud, near I-25. A developer has agreed to help construct a new sewage treatment plant, just east of I-25 when Aims Community College proceeds with their plans to develop a new campus.

Less land division has taken place along the Little Thompson River in Weld County and Boulder County compared to Larimer County, although there are a number of large ownerships left along the river in Larimer County.

While sand and gravel are associated with the Little Thompson River, the quality of those gravel resources is such that there has been no significant commercial gravel development. As a result, this river system is much different than other South Platte tributaries along the Northern Front Range, where gravel development and gravel company ownership is widespread, particularly on the Plains. Another important distinction from the other rivers is the lack of an adjoining highway. Highway 36 does follow the main stem for five miles, but other than that, roads cross, but do not follow the river. One possible explanation for the limited road system was the lack of significant mining and limited claims for gold and silver in the area.

Yet another significant difference compared to rivers such as the St Vrain, Big Thompson and Poudre is that there are currently no public trail systems along the river.

The Little Thompson River is significantly impacted by irrigation diversions. There are a total of nine ditches on the river. Between 2003 and 2012 they had a combined average annual diversion near 7,000 acre feet. Northern Colorado Water Conservancy District also plays an important role in the Little Thompson as it delivers water from Carter Lake into the St Vrain Supply Canal, then into the Little Thompson for access to the various ditch companies and into the Big Thompson River.



Other than the small reservoirs associated with Pinewood Springs and Big Elk Meadows there is a mid level storage reservoir, the Boulder/Larimer known as the Ish and New Ish Manufacturing Company, which captures Little Thompson River flows. There are no large scale reservoirs that are associated with the river. Carter Lake is basically on the divide between the Big Thompson and Little Thompson, but it is fed by trans-basin water. Likewise, water in Dry Creek Reservoir is mostly trans-basin water.

Irrigated lands near Berthoud, cause significant ground water and surface water return flows to the river. The Osborne/Caywood is the most senior right on the river and has historically de-watered the river, particularly during drought conditions. This complete diversion of flow will be offset by the return flow, the Dry Creek and the Town of Berthoud effluent releases to keep low, but steady flows of water to the Big Thompson confluence, particularly when water is delivered from the St Vrain Canal.

Cover Sheet for Input Document, #54

The document listed 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: April 22, 2014

Input provided by: Eddie Kochman, Colorado Citizen

Method of submission: Email to Craig Godbout; forwarded to cowaterplan@state.co.us

Summary of Input: Text from email: "Please include the attached comments into the record regarding the Colorado Water Plan process. They were submitted to the Parks and Wildlife Commission at their April meeting in Salida."

Documents Submitted for Review: Comments in attached letter

Staff Response: With regard to 5.9, 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. Although not fully tested, instream flows can be designed to directly benefit riparian areas, and the CWCB Stream and Lake Protection Section has been working with the BLM to design an approach to in-stream flows by providing a flood flow component in the spring. - instream flows conserve riparian areas. With regard to conservation, 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.

April 11, 2014

To: COLORADO PARKS AND WILDLIFE COMMISSION, SALIDA MEETING

From: Eddie Kochman, eddiekochman@aol.com, 303-919-6639

Subject: Summary of recommendations concerning the ongoing process to complete a Colorado Water Plan (CWP) with primary emphasis on long-term protection of stream flows, riparian, wetland habitats and watersheds. The objective being to have each recommendation contained within the final CWP.

1. Survey each of the eight water basins in Colorado to determine if there are streams that are yet to have adjudicated minimum flows established under existing legislation 37-92-102 (3) administered by the Colorado Water Conservation Board. Develop a plan to survey each identified stream and lake minimum stream flow (cubic feet/second) recommendations to the CWCB.
2. Survey each of the eight river basins to determine if there are natural lakes that are yet to have adjudicated volumes (acre feet) of water established under existing legislation administered by the CWCB. Develop a plan to survey each identified natural lake and make water volume recommendations to CWCB
3. Expand emphasis to purchase, or lease, senior water rights to maintain adjudicated minimum stream flows and natural lake levels in cooperation with the Colorado Water Trust. CWCB has approximately \$1 million dollars annually available for purchase and lease. However, successful actions take a high level of administrative and stakeholder support. It is imperative that the CWP, as well as legislative authority, enable cooperative transfers of agricultural water rights to maintain stream flows and other aquatic habitats. Such action can have significant benefits to agricultural.
4. Evaluate options in each water basin to restore stream, riparian and wetland habitats within watersheds, in cooperation with federal land management agencies, state agencies, municipalities and private land owners. Determine costs, funding sources and long-term implementation plans. Improved water quality and forest health will also be benefits.
5. Stress the importance of maintaining declining aquatic wildlife species in face of increased demand for water to meet the needs of Colorado's projected population increase. Funding and staffing required to manage declining aquatic species must come from sources other than hunting and fishing license fees. Federal listing as T & E will be a factor to consider.
6. Current legislation, 37-92-102 (3) may not allow protection of riparian and wetland habitats that are either directly adjacent to stream channels, or outside the area of stream channels. Request an opinion of the Attorney General if the legislation, does, or does not allow, this protection. If current legislation does not allow protection of riparian and wetland habitats consider requesting expanded legislative authority. Wetlands and riparian habitats are at high levels of risk in the future.

Cover Sheet for Input Document, #56

The document listed 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: April 23, 2014

Input provided by: Melinda Kassen, WaterJamin Legal & Policy Consulting, on behalf of a number of non-governmental organizations

Method of submission: Email to John Stulp, Rebecca Mitchell, and Jacob Bornstein; forwarded to cowaterplan@state.co.us

Summary of Input: Text from email: "Please find attached a letter from a number of non-governmental organizations in response to the Front Range Water Council's letter to you three on April 3rd."

Documents Submitted for Review: Comments in attached letter

Staff Response: Colorado's Water Plan will not have a specific transmountain diversion project included in it. The write-up in the water plan concerning transmountain diversions will be dependent on the IBCC discussions which are still ongoing.

April 23, 2014

John Stulp
Rebecca Mitchell
Jacob Bornstein
Colorado Water Conservation Board
1313 Sherman Street, Room 720
Denver, CO 80203

Re: “New Supply” Discussion

Dear Mr. Stulp, Ms. Mitchell and Mr. Bornstein,

We write in response to a letter sent by the Front Range Water Council (Council) on April 3, 2014. In particular, we are greatly concerned with the Council’s request that Colorado’s Water Plan include an assurance that a “new supply project” be included in the Plan without first having fully assessed whether other strategies in the Plan would obviate the need for such a project. As James Lochhead, the letter’s author was quoted in the Grand Junction Sentinel this weekend, the option of a new supply project “needs to be secured and preserved and not just kind of put out in the future for some future discussion.” See, <http://www.gjsentinel.com/news/articles/-front-range-wants-dibs-on-river-water>. As you know, we have been actively engaged in the planning process of the state plan and the Basin Implementation Plans in various capacities – as conservation groups, IBCC members, roundtable members, and individuals. The increased discussion around new supply, and the Council’s recent letter, warrant your attention and response.

The Council – current trans-mountain diverters - demands “assurance” for developing a big new speculative water project from the West Slope to the Front Range even before we know it’s necessary. They want the State to leap before looking and, in so doing, abandon the common-sense “sequencing” approach that promises to better understand and meet our water needs, better protect Colorado’s rivers, and save state taxpayers money. We recommend a smarter, more balanced approach.

First, we need greater clarity on when and where “gaps” between supply and demands may emerge. As representatives of conservation and recreation interests, we think it will be especially important not only to understand the “non-consumptive gaps,” but also for Colorado to commit meaningful financial resources to begin addressing these gaps now. Independent of any future water development, Colorado must protect and restore rivers with ecological and recreational value throughout the state.

Second, we should determine how much water Colorado will generate from: completion of the water projects (IPPs) already in development, aggressively pursuing conservation, taping existing legally reusable supplies, and implementing innovative options for sharing water with irrigators. Next, we should determine what additional water may be available for consumptive use from the state’s rivers based on recent hydrology and climate change

projections. Part of this task must be to conduct a “risk assessment” of additional large-scale water development.

The above sequence of study and planning could remove the need for any large “new supply” before 2050 and/or determine that such a large-scale development of water would be too risky for Colorado. In light of these possibilities, it makes no sense to commit or assure that the Plan include a large new supply from the Colorado River, what could well result in a pipeline to nowhere.

We understand the Council’s responsibility to provide water to the growing Front Range, but the state should not provide assurance that unconstrained needs will be met at the peril of our rivers. We can manage our demand thereby extending our current supply and, in doing so, not only protect rivers throughout the state but also restore some of the adverse effects of 150 years of water development.

Sincerely,

Bart Miller, Western Resource Advocates

Theresa Conley, Conservation Colorado

Jen Bock, High Country Conservation Advocates

Melinda Kassen, member, InterBasin Compact Committee

Abby Burke, National Audubon Society

Matt Rice, American Rivers

Jennifer Pitt, Environmental Defense Fund

Nathan Fey American Whitewater

cc: James Eklund
Jim Lochhead

Conservationists' responses to specific points in Front Range Water Council 4/3/14 letter

Council Comment: FRWC members who participate in the IBCC made it clear at the March 25th IBCC meeting that “all” of the pieces of the puzzle, i.e., all four legs of the stool, must be pursued simultaneously, not sequentially.

Response: The IBCC said in 2010—in the letter to the Governors—that IPPs, conservation, reuse, and alternative agricultural transfers should be pursued and that Colorado must “preserve the option” to build a New Supply project. The 4th leg of the stool is and has always been “preserving the option for a New Supply project” **not** pursuing New Supply outright. Some planning may be warranted, but we believe defining the gaps with more particularity in light of the water supplies that the other three strategies can provide, creating resilience in our river environments to the point where a New Supply project might have some potential to obtain permits, and doing the necessary risk assessments especially in light of the newest information regarding Colorado River supplies must be done first. If so, the 4th leg of the stool may not even be necessary now or in the near future.

Council Comment: A new trans-mountain diversion from the Colorado River Basin to the Front Range must be part of any “filling the gap” package.

Response: This is not true *unless* there’s a demonstrated need established *after* the other three strategies – plus reuse and strategic additional storage – have been implemented and measures to protect Colorado’s rivers have been identified, funded, and scheduled for implementation.

Council Comment: FRWC believes it is premature to quantify any specific increments of water as “being available” to the East Slope for new supply development

Response: We agree. Any increment of New Supply developed for the East Slope must be based on a demonstrated need for that water. If there’s no gap after building IPPs, adopting aggressive conservation measures, reusing fully consumable water sources, implementing alternative agricultural transfers and adding strategic new storage, then the East Slope needs **no** increment of New Supply water. Ironically, the Council acknowledges the needs for risk management strategies and risk allocation, even as they argue against a cap on future water supplies from the Colorado River Basin for use by Front Range interests. This argument would encourage speculative development of water, contrary to Colorado’s constitution.

Council Comment: FRWC believes that assurances for a new Colorado River water supply development for the East Slope will reduce the need for additional buy-and-dry.

Response: This argument illustrates the underlying issue – it’s not an either/or. There are other options, better options - IPPs, conservation, reuse, alternative agricultural transfers, and strategic additional storage that can and should be pursued first.

Cover Sheet for Input Document, #57

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: April 24, 2014

Input provided by: Robert Garnett, Baca Grande Property Owners Association

Method of submission: Email to James Eklund; forward to cowaterplan@state.co.us

Summary of Input: Letter from the Baca Grande Property Owners Association regarding non-consumptive in-stream rights.

Documents Submitted for Review: Comments in attached letter

Staff Response: CWCB staff will pass the letter on to the Rio Grande BRT and CWCB's Stream and Lake Protection Section.



BACA GRANDE

PROPERTY OWNERS ASSOCIATION

PO BOX 237; CRESTONE, COLORADO 81131 PHONE: 719.256.4171 FAX: 719.256.4173
WWW.BACAPOA.ORG INFO@BACAPOA.ORG

April 24, 2014

Alan Hamel, Chair, Colorado Water Conservation Board
Travis Smith, Board, Colorado Water Conservation Board
James Eklund, Director, Colorado Water Conservation Board
Linda Bassi, Stream and Lake Protection Section Chief, Colorado Water Conservation Board
Megan Estep, Division Chief, Division of Water Resources, Mountain-Prairie Region, USFWS
Laurie Shannon, Planning Team Leader, Division of Refuge Planning, USFWS
Craig Cotton, Division 3 Engineer, Division of Water Resources

Dear Sirs/Madams,

The Baca Grande Property Owners Association Board of Directors represents over 4000 property owners voted and supports pursuing an agreement between the Colorado Water Conservation Board and the U.S. Fish and Wildlife Service that would give meaningful value to non-consumptive in-stream rights within our subdivision. We are interested in having the existing in-stream rights co-senior with the USFWS and be implemented to ensure best practices of stream restoration and recharge within our subdivision to utilize seasonal flows within our riparian habitats.

Our streams have been identified as a priority in the recent Non-Consumptive Needs Assessment. Included are North Crestone, South Crestone, Willow, Spanish and Cottonwood Creeks and their historic flows.

We are located in the Northeast headwaters of the Rio Grande River. Our creeks, stream-way corridors and marshes provide habitat for many species with Colorado Natural Heritage program ratings of very high biodiversity. Our recharge zone at the San Luis Valley margin provides for both the confined and unconfined aquifers. These are additional reasons for upgrading the in-stream rights on our creeks.

Sincerely,

Robert C. Garnett, President
The Baca Grande Property Owners Association

cc: Natural Surrounding Committee c/o Mr. Noah Baen
Mike Blenden, Project Leader, San Luis Valley Complex, USFWS
Ron Garcia, Manager, Baca National Wildlife Refuge, USFWS
Marcella M. Hutchinson, Colorado Watershed Coordinator, U.S. EPA Region 8
James Swanson, District 25 Water Commissioner
Mike Browning, Esq., Porzak, Browning and Bushong
Zach Smith, Esq., Colorado Water Trust
Erich Schwiesow, Esq., Lester Sigmond Rooney & Schwiesow
Rio Grande Basin Roundtable, Basin Implementation Plan Committee
Kevin Terry, Rio Grande Basin Project Manager, Trout Unlimited

Cover Sheet for Input Document, #59

The document listed 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: April 25, 2014

Input provided by: Melinda Kassen, WaterJamin Legal & Policy Consulting, on behalf of Conservation Colorado

Method of submission: Email to cowaterplan@state.co.us

Summary of Input: Conservation Colorado's comments on Section 5.4 Water Quality of Colorado's Water Plan.

Documents Submitted for Review: Comments in attached letter

Staff Response: These comments were incorporated into the current draft of Section 5.4 by the CDPHE Water Quality Control Division.

Melinda Kassen, JD
WaterJamin Legal & Policy Consulting
2350 Balsam Drive, suite 103
Boulder, CO 80304
303.579.5453
melindakassen@aim.com

April 25, 2014

Nicole Rowan, Colorado Water Quality Control Division
Trisha Oates, Colorado Water Quality Control Commission
Colorado Department of Public Health & Environment
4300 Cherry Creek Drive South
Denver, CO 80246

VIA EMAIL

RE: Conservation Colorado Comments on §5.4 of Colorado's Water Plan (Water Quality)

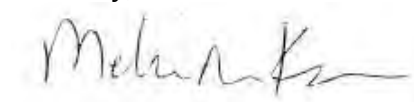
Dear Nicole & Trisha,

Conservation Colorado (CoCO) thanks you for this opportunity to submit comments on the 4/18/14 Colorado's Water Plan Chapter 5.4 (and the 4/24/14 Commission meeting discussing it). First, we appreciate your attention to so many of our earlier comments. This draft improves on your first, which, as we said before, was already an excellent distillation of the complex quality-quantity relationship. In the comments below, we suggest four main ways to strengthen the section further:

- Goal: We appreciate the inclusion of a goal. CoCO urges the Commission to include an outcome component, as well as the process component of the current draft.
- Current Water Quality Conditions: CoCO urges the Commission to provide a more complete picture of this topic – both by adding information on the high quality waters that Colorado can celebrate, and describing problem areas beyond waterbodies listed as impaired.
- Water Quality Management: CoCO suggests adding two paragraphs, one to describe how the Commission and Division address stream reaches with site specific standards or temporary modifications, and the other to describe funding sources available for projects and processes that improve water quality.
- Recommendations: CoCO has proposed a strategy to strengthen six of the existing recommendations – by articulating a commitment to review commission regulations and guidance, as well as adding a recommendation to express Commissioner Slutsky's suggestion about having Department of Natural Resource agencies check with the Commission before acting in ways that would materially degrade water quality.

Again, thank you for all of your work on this section and for all of the opportunities to comment.

Sincerely,



Melinda Kassen

CC: Becky Mitchell, COWaterPlan@state.co.gov
Becky Long & Theresa Conley, Conservation Colorado

Conservation Colorado Comments on Colorado's Water Plan §5.4

5.4.2 Water Quality and Quantity Integration Goal

CoCO appreciates the staff's addition of this section, and also support the commitment made yesterday to strengthen the language further and change the title.

With regard to the primary goal statement, Commissioner Pifher's rewrite, which the Commission chose to use yesterday, limits the goal specifically to "identification of water management strategies." However, some of the projects and processes that Basin Roundtables will identify, especially for meeting non-consumptive needs, are not "water management strategies," but projects and processes that are broader than how that term is traditionally understood. For this reason, CoCO recommends dropping that phrase from the goal statement.

In addition, CoCO agrees with Commissioner Wanner that the goal should include an outcome component, not just a process. Adding the phrase "as evidenced by waterbodies fully supporting their use classifications by 2050" would accomplish that. As a result of these two changes, the goal statement would read:

~~In the identification of water management~~ Strategies designed to meet our Colorado's consumptive and recreational/environmental needs under both current and future conditions, ~~such~~ strategies should recognize the inter-relationship between water quality and water quantity and be designed to protect and restore water quality so as to assist in meeting such needs **as evidenced by waterbodies fully supporting their use classifications by 2050.**

The Commission also discussed how best to measure progress on the goal, and made suggestions for changes to the three bullets that follow in the current draft. Based on our understanding of the Commission's direction at yesterday's meeting regarding the first bullet, CoCO supports having the Commission and Division provide the Roundtables with more information, including from the Statewide Water Quality Management Plan (SWQMP).

To complement the overall goal, as well as the regional goals and objectives related to water quality from the BIPs, this section of Colorado's Water Plan should establish interim **targets** for achieving water quality progress at the state level. Obviously, the SWQMP does establish four-year objectives; CoCO urges the Commission to use these as interim targets along the way to the more ambitious 35-year Water Plan goal. Thus, this section should not only refer to the SWQMP targets, but include them (and update them in subsequent iterations of the Water Plan, which will be on a five-year schedule).

Finally, CoCO agrees that, as an "inventory" or status check, the integrated 305(b) report does not establish any goals or targets, but is well suited as a means to measure progress towards both the SWQMP targets and a longer-term Colorado Water Plan goal.

The Commission discussed strengthening the information flow to water project proponents who need 401 certifications. This rewrite should describe the provision in the current rule, § 82.5(A)(3),

for project proponents to sit down with the Division and discuss (and potentially agree to include) certification conditions that may go beyond the Division's legally authority.

5.4.2.1 Current Water Quality Conditions

In the paragraph describing Antidegradation, p. 8 (or later in this section), please add the number of stream miles, or percent of reaches with a High Quality or Use Protected designation. Providing such a statistic will give readers a better understanding of the relative status of overall water quality in Colorado.

This section needs a more complete description of water quality impairment in Colorado. Many assessed water bodies have exceedences of standards, or degradation without being listing as impaired. To acknowledge this fact, please add either to the paragraph that begins, "Standards are the basis for evaluating the status of water quality" or the subsequent paragraph, a sentence that reads along the following lines:

Other waterbodies not regulated as impaired may still not routinely maintain the water quality necessary to support fully their use classifications, as evidenced by their having site-specific water quality standards, temporary modifications or periodic documented exceedences.

Towards the end of this section (after discussion of impairment) would also be a good place to celebrate that many of Colorado's waterbodies are of high quality, either better than necessary to support their classified uses or of outstanding value. CoCO suggests the addition of a paragraph to make that point, along the lines of:

river miles in Colorado are designated as Outstanding Waters. While many of these waterbodies cross lands protected by government status, others are pristine without such protection. In addition, many additional miles of rivers are "high quality," which means their water quality is better than necessary to support the classified uses. This category would include, for example, all of Colorado Division of Parks and Wildlife designated gold medal fisheries. Maintaining the quality of these waters benefits Colorado's recreation and economy.

5.4.2.2 Future Water Quality Conditions

As suggested in our previous comments, CoCO asks that information from the following two documents be incorporated and that the References section cite them:

- EPA's 2013 *Watershed Modeling to Assess the Sensitivity of Streamflow, Nutrient, and Sediment Loads to Potential Climate Change and Urban Development in 20 U.S. Watersheds*, analyzing the impacts of climate change on water quality in watersheds across the country, including the Rio Grande, Upper Colorado and South Platte;

- The recently released draft update of the CWCB's *Climate Change in Colorado*, <http://cwcb.state.co.us/environment/climate-change/Pages/Draft2014ClimateChange-Report.aspx>.

5.4.3 Water Quality Management

After the paragraph describing the TMDL process, (again) it would be useful to insert a new paragraph that describes the process of setting – and then removing – a temporary modification. Such a paragraph could also include a description of the setting and reevaluation during triennial review of site specific standards and Use Protected designations.

At the end of this section, please add a paragraph about funding. This paragraph could address funding mechanisms currently available to improve water quality, as well as a description of current unmet needs and potential strategies for filling those needs. There have been some interesting collaborative efforts between the CWCB and WQCD in the past (e.g., on the Rio Blanco) that would be interesting examples of cooperative funding and good results. Filling the non-consumptive gaps will present significant water quality opportunities (and challenges); a paragraph on funding would add to a realistic description of how Colorado will implement the actions necessary to improve water quality in the context of Colorado's Water Plan.

5.4.4 Recommendations

5.4.4.1 Integrated Water Quality and Quantity Management

In bullets 3, 6, 7, 8, 9 and 11 (about green infrastructure, reuse, aquifer storage and recovery, storm water management, nonpoint source control and the salinity program), in addition to cataloging strategies, each recommendation should explicitly call for the Commission to study the issue and propose guidance or changes to regulations (or new regulations) that encourage these approaches.

In addition, CoCO urges the Commission to adopt an additional recommendation in this section containing Commissioner Slutsky's suggestion that Colorado adopt a policy for the State Engineer and Colorado Water Conservation Board to consult with the Commission before taking action (on their own or by approving a water user's proposal) that materially degrade water quality.

5.4.4.2 Policy Considerations

In the 1st bullet, CoCO had concerns with the phrase "regulatory flexibility" and supports Commissioner Baumgartner's proposed alternative: creative solution-oriented applications.

Cover Sheet for Input Document, #60

The document listed 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: April 26, 2014

Input provided by: Mary Keyes, NWCCOG

Method of submission: Email to cowaterplan@state.co.us

Summary of Input: Text from email: "Northwest Colorado Council of Governments appreciates all the work that you have put into preparing the water quality section of the Colorado Water Plan. We know that the timeframe is incredibly short and appreciate the attention you have given to our other comments. We offer a few more comments in track changes in the attached document that we think will provide more clarity to the document. Thank you again for the work that you are putting into this very important section of the plan."

Documents Submitted for Review: Comments in attached letter

Staff Response: These comments were incorporated into the current draft of Section 5.4 by the CDPHE Water Quality Control Division.

DRAFT Chapter 5: Water Management

5.4 Water Quality

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.

Coloradans have a strong connection to water. The quality of water in the state needs to be protected and in some cases restored to support Colorado's heritage, communities and way of life - now and into the future. Executive Order D 2013-005 recognizes this by stating "Colorado's water quantity and quality questions can no longer be thought of separately. Each impacts the other and our state water policy should address them conjunctively." The Executive Order also lists "a strong environment that includes healthy watersheds, rivers and streams and wildlife" as one of three core Colorado values. In addition, recent public survey results highlight the value Coloradans place on safe, clean water. These surveys indicate Coloradans believe the quality of both surface and groundwater is very important as a source of drinking water received in homes. Coloradans also believe the quality of water in streams and lakes is very important to support recreational uses. The survey results show public health is the most motivating reason to improve water quality, followed by wildlife and fish habitat (Water Quality Control Division 2007 and Colorado Water Conservation Board 2013).

Water quality and quantity are inextricably connected. Understanding water supply and demand alone is an incomplete picture. Not only must there be enough water available for use, but the water must also be sufficient quality for irrigation, drinking water and stream conditions must support recreational uses and aquatic life. ~~as well as protection of aquatic life.~~ Over the past 40 years Colorado's water quality management programs have benefitted those exercising water rights by ensuring clean water for such uses as growing crops to providing drinking water to enjoying water-based recreation. In fact, Colorado's water quality management programs benefit all Coloradans because clean water is essential to the state's healthy environment, diverse economy and quality of life. This is why both protecting and

Colorado's water quantity and quality questions can no longer be thought of separately. Each impacts the other and our state water policy should address them conjunctively.

restoring water quality are fundamental to supporting Colorado's water values and implementing Colorado's Water Plan.

As Colorado plans for its water future, better integration of water quality and quantity planning and management activities is critical. Opportunities to address existing water quality impacts and minimize future impacts must be prioritized in order to ensure Coloradans continue to have access to safe and clean water. Balancing increasing quantity demands with water quality protection and restoration requires on-going dialogue with all Coloradans and collaboration at all levels of government. Colorado's Water Plan offers a framework for moving forward with the quality and quantity conversation.

The following information is a starting point for this on-going conversation. The discussion below first describes how quality and quantity are related to create a foundation for understanding this complex subject and then identifies a goal to improve these relationships in support of protecting and restoring water quality. Current water quality management is described as context for identifying ways to improve integration, and recommendations are made to move forward with meeting the integration goal.

5.4.1 Water Quality and Quantity Relationships

Water quality in Colorado is protected by state and associated federal statutes and local, state, and federal regulations. The Water Quality Control Commission (commission) adopts regulations, guidance and policies required pursuant to the federal Clean Water Act, the Colorado Water Quality Control Act and the federal Safe Drinking Water Act. The Water Quality Control Division (division) is the primary agency implementing these regulations, guidance, and policies. This water quality management structure is different from what is in place for water quantity management. Understanding the existing relationships between these distinct management frameworks and looking for opportunities to improve coordination and integration is important for protecting the state's water resources.

5.4.1.1 Water Quality and Quantity Connections

Managing water quantity may cause a change in water quality. When water is diverted to farms or cities, stored for future use or flood control or managed as return flows to address downstream water rights, water quality can be affected. For example:

- Recreational fishing is a way of life in Colorado and is important for local and state economies. Deep reservoirs tend to thermally stratify in summer, with cold water settling to the bottom of the reservoir. Many reservoirs release water downstream from the bottom where the stratified water is very cold. There are a few places where cold water releases from the bottom of reservoirs have impacted downstream native fish and aquatic life. However, most of Colorado's Gold Medal Fisheries, which are managed by Colorado Parks and Wildlife, are



Black Lake No. 1 and No. 2 were enlarged so that stream flows could be maintained during snowmaking season.

downstream of dams. Other surface water structures such as diversions to canals and off stream reservoirs can also impact water quality and fisheries. These modifications can result in low stream flows that can cause low oxygen concentrations, high water temperatures, and higher concentration of pollutants. In Colorado, solutions are explored to mitigate the problems caused by these modifications in a way that protects water quality while still meeting the project needs.

- One option for addressing future municipal water supply needs is through alternative agricultural transfers. However, high concentration of salts and other pollutants from this source water may require advanced water treatment technologies such as reverse osmosis to make the water useable for communities. The waste product from reverse osmosis has very high salt levels and cannot be discharged into the stream. Other disposal options for the waste product are limited. However, if a municipal provider has higher quality source water to blend with lower quality sources then this issue can be avoided. For example, Aurora Water recently completed the Prairie Waters Project where both natural and constructed treatment allowed for potable water reuse to proceed without requiring any new Clean Water Act permits.
- Implementing and maintaining drinking water and wastewater treatment in a semi-arid environment is challenging today and will continue to be in the future. Treatment infrastructure is critical to protecting public health and the environment. The ability of the stream to accept the pollutants in wastewater without a negative impact to quality will depend on the amount of water flowing in the stream. Water diversions upstream can result in fluctuating stream levels and therefore affect water quality. Changes in treatment necessary to meet new, more stringent discharge limits or needed upgrades to aging infrastructure can increase operational costs for wastewater treatment facilities. However, protecting water quality through treatment and other measures can result in cost savings for downstream drinking water treatment facilities because it results in a higher quality of source water that could require less treatment.
- The Colorado Water Conservation Board (CWCB) is responsible for the appropriation, acquisition, protection and monitoring of instream flow and natural lake level water rights to preserve and improve the natural environment to a reasonable degree. These water rights are established exclusively by CWCB for nonconsumptive, in-channel or in-lake water uses in support of minimum flows between specific points on a stream or levels in natural lakes. These rights are administered within the state's water right priority system. While Colorado law explicitly prohibits the commission and division from taking any action that requires minimum instream flows, the instream flow program has provided tangible water quality benefits across the state specifically for aquatic life classified uses.

Understanding the cause and effect between water quality and quantity is integral to making sound water management decisions.

These water quality and quantity cause and effect connections are integral to making sound water management decisions and are considered during decision-making processes that are dependent on water quality and quantity statutory, regulatory and management relationships.

5.4.1.2 Statutory and Regulatory Relationships

At a state level, water quality and quantity are managed separately based on different constitutional, statutory and regulatory provisions. However, state and federal statutes that protect in-stream water quality recognize the importance of protecting water rights while still providing the authority to impose water pollution controls. The federal statute that protects drinking water quality also recognizes integration with water quantity by including protections for source water that reduces treatment costs.

Many state and federal water quality-specific regulations intersect with quantity management. The quantity of water available is integral to establishing water quality standards and ensuring those standards are attained as required in state and associated federal water quality regulations. Water quality is also recognized in state regulations via addressing the quality of substitute water supplies used in exchanges and substitute water supply plans. Regulations governing reuse also support integration between water quality and quantity management.

One of the primary examples of the regulatory quality and quantity relationship is the division's water quality certification of federal permits and licenses under Section 401 of the federal Clean Water Act as implemented through Water Quality Control Commission Regulation No. 82. Section 401 directs states to certify that [the construction and operation of](#) activities needing federal permits and licenses will maintain the state's water quality use classifications, standards and designations. Many water development projects require a federal dredge and fill permit under section 404 of the Clean Water Act or hydropower license from the Federal Energy Regulatory Commission. Regulation No. 82 gives the division three certification options for federal permits or licenses including the ability to certify, conditionally certify through identified mitigation measures or deny certification. Certification by the division means that when the federal permit or license is implemented, the proposed project will comply with surface and groundwater standards regulations, surface and groundwater classifications and water quality standards and all other applicable water quality requirements for the affected waters. For example, if a project requires a Clean Water Act Section 404 individual permit from the Army Corps of Engineers, a 401 water quality certification is required from the division. Section 5.10 discusses the 401 water quality certification in more detail.

Another example of a quantity and quality regulatory relationship is the commission's adoption of site-specific standards and designations. Often these site-specific standards and designations are



Expansion of Gross Reservoir is part of the proposed Moffat Collection Expansion Project. This project will require 401 certification.

adopted to reflect a lower water quality than would exist without a hydrologic modification such as a dam, diversion or return flows associated with exercising water rights throughout Colorado.

Though by state statute, the commission is solely responsible for the adoption of water quality standards and classifications, local government regulations can also have a water quality and quantity connection. For example, local governments have been delegated permit authority over certain matters under the Areas and Activities of State Interest Act. Under the Act, local governments can adopt regulations that address the impact of municipal and industrial water projects. These regulations, referred to as 1041 regulations, often require mitigation of water quality impacts these water projects. Associations of local governments also prepare Regional Water Quality Management Plans that establish water quality goals and recommendations for regional water quality management. Typical local 1041 regulations require new water projects to comply with these plans.

5.4.1.3 Water Management Relationships

The roles and responsibilities defined in the statutes and regulations are shared by a number of entities, which creates a complex system for overseeing the state's water resources. At the state level alone, there are many entities involved with protecting water quality which requires coordination and integration to make sure water resources are appropriately managed.

The commission and division have defined water quality roles and responsibilities. The Colorado Water Quality Control Act also identifies several additional water quality implementing agencies: the Division of Reclamation, Mining, and Safety; the State Engineer; the Oil and Gas Conservation Commission; the Colorado Department of Public Health and Environment Hazardous Materials and Waste Management Division; and the Division of Oil and Public Safety at the Department of Labor and Employment. These agencies have initial responsibility for implementing the groundwater quality classifications and standards adopted by the commission. These implementing relationships are defined through Memoranda of Agreement, and the commission has residual authority to intervene in the event it determines an implementing agency is not assuring compliance with water quality classifications and standards.

The Department of Natural Resources (DNR) plays a critical role in managing water quantity in the state. The Division of Water Resources within DNR is responsible for water administration, while the CWCB, another division within DNR, sets water policy, completes water planning, and reviews state wildlife mitigation plans. DNR's Colorado Parks and Wildlife develop state wildlife mitigation plans, which address fish and wildlife resources affected by the construction, operation, or maintenance of water diversion, delivery, or storage facilities.

The commission and the division are required by the Colorado Water Quality Control Act to consult with the CWCB before making any decision or adopting any rule or policy that has the potential to cause material injury to water rights. This agency receives copies of all commission rulemaking hearing notices, and all notices include a provision requesting information from the public regarding potential impacts on water rights.

Municipal and county governments regularly address the non point source impacts of new development by requiring sediment control practices, water body buffer zones, revegetation requirements, impervious surface area limitation and similar techniques that minimize impacts to water quality.

5.4.2 Water Quality and Quantity Integration Goal

As was discussed previously, Executive Order D 2013-005 states “Colorado's water quantity and quality questions can no longer be thought of separately. Each impacts the other and our state water policy should address them conjunctively.” As section 5.4.1 described, the quality of Colorado's waters is important to both consumptive and nonconsumptive water needs. Therefore, it is important to establish a goal related to quantity and quality integration between now and 2050. Development of this goal can be informed by the Federal Clean Water Act goal, Safe Drinking Water Act EPA's strategic plan, Colorado's Water Quality Control Act, the division's strategic goals and the Basin Roundtable Implementation Plans. These laws and plans focus on broader actions than quality and quantity integration but provide important insight to rely upon in developing a quality and quantity integration goal as part of Colorado's Water Plan.

The Federal Clean Water Act set a national goal “to restore and maintain the chemical, physical, and biological integrity of the Nation's waters”, with interim goals that all waters be fishable and swimmable where possible¹. The Safe Drinking Water Act authorizes EPA to set national health based standards for drinking water to protect against both naturally-occurring and man-made contaminants that may be found in drinking water. US EPA, states, and water systems then work together to make sure that these standards are met.² EPA's current strategic plan has goal regarding protecting America's waters and it states “Protect and restore waters to ensure that drinking water is safe and sustainably managed, and that aquatic ecosystems sustain fish, plants, wildlife, and other biota, as well as economic, recreational, and subsistence activities.”³

There are several Colorado Water Quality Control Act provisions that are related to water quantity and water rights⁴:

- A primary goal of the Water Quality Control Act is protect, maintain and improve the quality of state waters for beneficial uses including domestic, wildlife and aquatic life, agricultural, industrial and recreational uses.
- Dischargers of pollutants may be required to meet a high degree of treatment in order to protect water rights.

¹ <http://water.epa.gov/action/cleanwater40/cwa101.cfm>

² http://water.epa.gov/lawsregs/guidance/sdwa/upload/2009_08_28_sdwa_fs_30ann_sdwa_web.pdf

³ http://www2.epa.gov/sites/production/files/2014-04/documents/epa_strategic_plan_fy14-18.pdf

⁴ Colorado Foundation for Water Education. 2013. Citizen's Guide to Water Quality Control Protection. Denver, CO.

- The commission and division must consult with the State Engineer and the CWCB before making any decision or adopting any rule or policy that has the potential to cause material injury to water rights.
- The commission and division shall not require an instream flow for any purpose.

Finally, the division's mission is to protect and restore water quality for public health and the environment in Colorado. The division's strategic plan states that it will achieve its mission by pursuing the following goals:

- Prevent waterborne disease and reduce chronic public health risks from drinking water through improved implementation of the federal Safe Drinking Water Act and Colorado's drinking water statutes and regulations.
- Protect all designated uses by attaining water quality standards through improved implementation of the federal Clean Water Act and Colorado Water Quality Control Act and their associated regulations.
- Restore impaired water quality to attainable standards through improved implementation of the federal Clean Water Act and Colorado Water Quality Control Act and their associated regulations.

Based on review of the laws and plans summarized above the quality and quantity integration goal was developed and states:

As Coloradans find solutions to address our consumptive and nonconsumptive needs now and in the face of future changes and pressures, water management strategies should prioritize water quality and quantity connections that pro-actively protect and restore water quality for public health and the environment.

In order to evaluate this goal the following measures will be used:

- The Basin Roundtables actively incorporate water quality into the decision making regarding consumptive and nonconsumptive projects and methods.
- Project proponents are aware of 401 certification requirements and understand the water quality analyses and best management practices needed to mitigate water quality impacts from water projects.
- Maintain and in some cases improve water quality at a basin scale and document this in the division's integrated report (discussed in 5.4.2.1) and division's Statewide Water Quality Management Plan (discussed in 5.4.3). This information could be used in CWCB's scenario planning efforts when evaluating the status of future "signposts" (see Chapter 5.2). By tracking this information through time, we can know if efforts to integrate water quantity and quality are successful and make "course corrections" as part of CWCB's adaptive management plan efforts.

5.4.2.1 Current Water Quality Conditions

As plans for meeting consumptive and nonconsumptive needs are produced which recognize the many interactions of statute, regulation and management activities, it is important to understand current water quality conditions in the state. These current conditions provide a baseline for evaluating potential impacts, mitigation and measuring how we are meeting our water quality and quantity integration goal. Understanding current water quality conditions is also fundamental to ensuring compliance with water quality regulations is integrated with water supply planning and implementation.

Evaluating the status of surface water quality in Colorado requires understanding the classified uses identified for waterbodies throughout the state. A classified use is a specific type of use for an identified waterbody. Classified uses for water can include domestic water supply, agriculture, recreation, aquatic life and wetlands. After classified uses are assigned to stream segments by the commission, water quality standards are adopted for many different pollutants to protect these waterbody-specific uses.

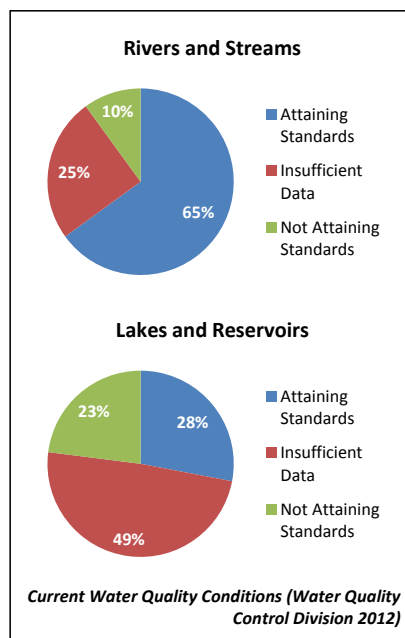
The state is also required to have an antidegradation policy as part of its water quality standards. Antidegradation protects the intrinsic value of high quality surface waters. Colorado's antidegradation policy establishes that at a minimum, for all surface waters, the existing classified uses and the level of water quality necessary to protect such uses are to be maintained; these are use protected waters. The antidegradation policy also provides extra levels of protection for two types of waters that are designated by the commission. Outstanding waters receive the highest level of protection and that quality must be maintained at the current levels (no degradation). Reviewable waters are high quality waters which receive an intermediate level of protection. The rules for antidegradation review require a public review process be followed before the natural capacity of a waterbody to dilute and absorb pollutants and prevent harmful effects is completely allocated to a project or permit where a new or increased impact is proposed. Use of such capacity is allowed if the review shows it would accommodate important economic or social development for the area in which the waters are located.

Standards are the basis for evaluating the status of water quality for each waterbody. When available data show water quality standards are not being met, the waterbody is identified in regulation as impaired. These impaired waterbodies, as well as other information about water quality in the state, must be identified in a biennial report to the Environmental Protection Agency (Integrated Water Quality Monitoring and Assessment Report (the Integrated Report or IR)).

Based on the 2012 IR (reporting period 2010-2011):

Date Updated: 4/18/2014

DRAFT



- 65% of rivers and streams miles and 28% lakes and reservoirs acres evaluated statewide attain water quality standards.
- 25% of rivers and streams miles and 49% of lakes and reservoirs acres statewide do not have enough data to determine if water quality standards are being met.
- 10% of rivers and streams miles and 23% of lakes and reservoirs acres evaluated statewide are not meeting water quality standards for one or more pollutant (impaired waterbodies).

The most common causes of river and stream impairments in Colorado are selenium, pathogens such as E. coli and iron. For lakes and reservoirs, the most common causes of impairment are selenium, mercury, and dissolved oxygen saturation. When water quality standards are not attained, the ability to use water for domestic water supply, agriculture, aquatic life or recreation can be impacted.

The water quality information presented here is statewide and is based on available water quality data. Different regions or basins within the state have varying water quality conditions and may have unique water quality challenges. Water quality impairments may also exist in streams or lakes that either have little to no available data or have not yet been assessed through the IR process.

5.4.2.2 Future Water Quality Conditions

Many changes will happen over the next 35 years that can affect both regional and statewide water quality. Understanding these changes is important as plans are developed for addressing the municipal and industrial supply gap as well as meeting environmental and recreational needs over the next 35 years.

Future water quality conditions will not only be affected by water quantity decisions but will also be influenced by changing water quality regulations. There are already additional proposed regulations designed to further protect and restore water quality. Increased nutrient controls, more stringent arsenic standards and a revised selenium standard are current examples. There is also a renewed emphasis on implementing actions that will produce measureable, positive changes in water quality. Recognizing and finding opportunities in these potential changes to protect and enhance water quality is an important part of planning for the future water quality condition.

Other factors affecting future water quality condition are also important to recognize. As the economy and population grow and land uses change, there will be increased water quantity demands and additional stressors on water quality. Future land use decisions are a factor as water quality can be impacted by increased urbanization and associated stormwater runoff, volumes of discharged municipal wastewater, and industrial discharges including those from the energy sector. As streams are depleted from additional diversions, existing concentrations of pollutants will increase, and water treatment and wastewater treatment relying on those streams will become more difficult. New issues can also arise from emerging contaminants or interactions between different constituents that are not now known. These potential impacts could be negative though there can also be opportunities for positive change which makes informed, integrated water resource management decisions very critical.

Comment [AU1]: Is it possible to have a more complete picture of existing conditions without adding too much "bulk."? Also it would be helpful to include a section about high quality waters and outstanding waters .

The potential for future positive or negative water quality impacts is compounded by climate change. Predicted effects from a changing climate include:

- Shifts in the timing of runoff.
- Decreased late summer streamflows resulting from increased temperatures, a general increase in winter precipitation and a general decrease in summer precipitation.
- Increased stream temperature and/or different seasonal temperature changes.
- A change in frequency and intensity of wildfire.
- Variability in flood and drought extremes.
- More intense summer storm events.

Planning for the water quality impacts from these potential fundamental system shifts is challenging and highlights the need to make measurable progress on the water quality and quantity integration goal.

5.4.3 Water Quality Management

Current water quality decisions are made in the context of a management system based on statutes, regulations, and implementation processes. This system defines boundaries in order to protect and restore water quality, but it also offers opportunities for flexible, integrated approaches for meeting consumptive and nonconsumptive needs. The existing water quality management system as discussed in this section is a starting point for finding these opportunities and maximizing them to facilitate future integrated water resource management decisions.

The statutory and regulatory framework for water quality discussed in Subsections 1.2 and 5.4.1.2 establishes the requirements for protecting and restoring water quality in the state. This framework is implemented through processes at the state and local level. Subsection 5.4.1.4 discusses classified uses and the water quality standards established to protect these uses. Both are critical to protecting and restoring water quality in the state and are established through commission processes with public input.

Water quality management processes also include monitoring, data assessment and reporting. Monitoring and data assessment are essential to identifying and characterizing water quality problems, revising water quality standards, and developing and evaluating the results of control programs. Monitoring is completed in conjunction with many statewide partners, and the division utilizes its own data as well as partners' data in assessments that support evaluating the status of statewide and basin-scale water quality with respect to meeting water quality standards. Information about attainment of water quality standards is provided in the Integrated Report (IR) discussed in 5.4.1.4 and is also identified in regulation (commission Regulation No. 93, Colorado's Section 303(d) List of Impaired Waters and Monitoring and Evaluation List); both are adopted by the commission through public processes.

Once streams and lakes are identified as not meeting water quality standards, a restoration plan is produced that defines how much of the pollutant that is causing the impairment can be in the

stream or lake in order to ensure water quality standards are attained. The allowable amount of the pollutant is then divide between all the different sources of the pollutant, both point and nonpoint. This restoration plan is called a Total Maximum Daily Load (TMDL). There is a public notice process associated with TMDL development. Once the TMDL is approved by the Environmental Protection Agency, the TMDL is the basis for implementing actions necessary to bring the stream or lake back into attainment. Instead of implementing point or nonpoint sources controls to meet existing water quality standards, TMDLs can also result in a re-evaluation of standards and sometimes classifications. Implementation actions can be defined in a TMDL implementation plan, in a locally-driven watershed plan or in a locally-driven regional water quality management plan (208 plan). Watershed plans and 208 plans also [identify stressors to water quality and](#) address other water quality improvement and protection activities necessary to meet local and regional goals. The division works with local partners and these local plans to implement priority projects to restore and maintain water quality at a watershed or regional scale.

The division also uses information from these local plans to support its own planning efforts. The division produces a Statewide Water Quality Management Plan (SWQMP) for approval by the commission. The SWQMP compiles water quality information at a statewide and basin scale in support of implementation activities. This compilation of information, as well as the information in the IR, commission policies, and other division reports, agreements and documents, support division strategic planning that promotes progress toward national water quality goals and provides specific metrics for measuring that progress.

The purpose of these plans at different scales by numerous partners is defining and prioritizing actions for the improvement, restoration, and protection of water quality. Implementation tools utilized by the division include Section 401 water quality certifications (discussed in subsection 5.10), permits that allow discharges to streams and lakes as long as certain limits or control measures are met, and funding support for partners.

5.4.4 Recommendations

In developing this section, the division worked with the Colorado Water Quality Forum and the commission in developing recommendations. Because this is the first water planning effort to integrate water quantity and water quality, these recommendations are general in nature. As Colorado's Water Plan is updated in the future, these recommendations serve as a starting point for implementation efforts focused on:

- Integrated water quality and quantity management.
- Policy considerations.
- Financial considerations.
- Stakeholder and public outreach.

5.4.4.1 Integrated Water Quality and Quantity Management

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

- Evaluate water quality impacts associated with the proposed solutions and scenarios presented in the Basin Implementation Plans and in Sections 5.6 through 5.9 of Colorado's Water Plan. Identification of impacts will define the scope of strategies that will need to be explored to protect and restore water quality.
- Define opportunities, in cooperation with Basin Roundtables and others, to address potential water quality impacts that arise from implementing water quantity solutions through projects and processes that restore and enhance existing water quality conditions. An initial step to implement this recommendation is assisting the Basin Roundtables to identify in the Basin Implementation Plans water quality goals, objectives and measurable outcomes based on current water quality information for each basin. This collaboration supports the Basin Roundtables in identifying projects and methods that integrate water quality and quantity management to protect and restore water quality.
- Define green infrastructure approaches for the arid west and explore how green infrastructure can be utilized to address Colorado's consumptive and nonconsumptive gaps. For example, green infrastructure in the arid west can go beyond stormwater management activities and low impact development methods to include landscape-scale land use planning that addresses where activities should occur on the landscape in order to meet multi-faceted goals, including protecting and restoring water quality. A catalog or library of green infrastructure examples can also be developed and maintained. Existing information developed by green building and stormwater management groups provide a starting point for this exercise.
- Evaluate new water supply projects with respect to the potential for multiple benefits, including water quality protection and enhancement.
- Examine how new or existing supply project can be designed and/or operated to further water quality objectives.
- Identify the role of reuse by developing a catalog of reuse examples such as direct potable reuse, indirect potable reuse, non-potable reuse, graywater use and the associated water quality issues that will need to be addressed for each type of reuse.
- Identify the role of aquifer storage and recovery.
- Explore the role of stormwater management from both a quality and quantity perspective.
- Address nonpoint sources through on-going management activities that will play an important role in restoring water quality to address future water uses. These activities should include cataloguing and evaluating local government land use planning tools that minimize nonpoint source pollution associated with development. A holistic approach to nonpoint source management including water quality trading should be explored.
- Identify the risks of climate change as it relates to integrated water quality and water quantity management.

- As Colorado continues to implement salinity controls other water quality improvements could be explored including how environmental flows could be integrated into the salinity control effort.
- Explore how CWA requirements and SDWA requirements can be most efficiently and cost effectively integrated.

5.4.4.2 Policy Considerations

Recommendations related to policy considerations include:

- Continue to exercise regulatory flexibility with actions such as site-specific standards, temporary modifications, discharger specific variances and pollutant trading. Also maintain ongoing, non-regulatory programs including nonpoint source management and source water protection planning in concert with local government efforts.
- As reuse continues to be maximized in Colorado, the concept of net environmental benefit needs to be explored. This concept is focused on the demonstration that the ecological value of using effluent to support riparian and aquatic habitats exceeds the ecological benefits of removing the discharge from the waterbody.
- Implementing new types of reuse in Colorado will require review of existing regulations, guidance and policy documents to consider revisions that will protect public health and the environment while also providing sufficient flexibility for water suppliers to develop a new water reuse projects across the state.
- Integrated water quality and quantity management will require consideration of the implication on water rights of given water quality management strategies. For example, integrated stormwater management may have impacts on downstream flows and these impacts would have to understood and addressed before this strategy could be implemented.
- Colorado should continue to work with neighboring states to address interstate water quality and quantity issues.
- Examine where statutory and regulatory flexibility exist and where program modifications may be warranted in response to climate change.
- Increase statewide monitoring of ground and surface water quality for old and emerging contaminants so as to generate a comprehensive compilation
- Create a centralized statewide registry of wildlife impacts to serve as guidance in the choice of sites for water quality monitoring

Comment [AU2]: We are concerned about this term meaning a lot of different things to different people. What about “Continue to engage in creative, solution-oriented application of regulations...”

5.4.4.3 Financial Considerations

Future efforts to integrate water quality and quantity will require funding. The recommendations outlined below may be further detailed in Chapters 6 and 8 of Colorado’s Water Plan. Because this is the first water planning effort that includes integration of water quantity and quality, the following recommendations are general:

- Continue to fund nonpoint source management efforts.
- Identify costs and funding sources for implementation of green infrastructure and reuse.
- Consider state funding of regional watershed-based water quality planning to better integrate with current and future water quantity efforts.
- Consider state funding mechanisms for future water projects that implement consumptive and nonconsumptive strategies consistent with Colorado's Water Plan, with emphasis placed on funding those portions of water projects that result in a public benefit.
- Consider state funding mechanisms for implementation of mitigation activities required under a state water court water rights decision or a federal or state water quality protection regulatory action.
- Consider funding mechanisms for the protection, restoration or enhancement of water quality values in river or stream reaches of high ecological value or where potentially detrimental development is anticipated to occur.

5.4.4.4 Stakeholder and Public Outreach

Stakeholder and public outreach is critical to meeting the water quality and quantity integration goal. The recommendations outlined below may be further detailed in Chapter 7 of Colorado's Water Plan. Because this is the first water planning effort that includes integration of water quantity and quality, the following recommendations are general:

- Use a watershed approach for outreach and community engagement around water quality, ways to protect water quality, and solutions to address water quality issues. Colorado's many watershed groups already utilize a watershed approach to effectively plan for and implement actions that protect and restore water quality, and this approach can be used when developing and implementing strategies that integrate water quality and quantity management.
- Monitor the public's attitudes and opinions about water quality as it relates to domestic water supply as well as environmental and recreational uses of water.
- As the Basin Roundtables complete their Basin Implementation Plans, goals and performance measures could be developed for water quality that should be added to this recommendation section.
- Conduct a joint CWCB and commission meeting to discuss water quality and quantity integration.
- As the commission continues to implement its water quality standards triennial review process throughout the state using its basin approach it will consider having workshops with Basin Roundtable members. For example, the commission typically conducts its June standards rulemaking hearing in the basin that is the focus of the rulemaking. During the June meetings, a meeting could be held with Basin Roundtable members to gather input on water quality and quantity integration efforts.

References

Colorado Water Conservation Board. 2013. Public Opinions, Attitudes and Awareness Regarding Water in Colorado. Prepared by BBC Research & Consulting.

Stenzel, Dick. "Upper Black Lake." Photo. <http://www.applegategroup.com>. 25 Mar. 2014.

Stenzel, Dick. "Gross Reservoir." Photo. <http://www.applegategroup.com>. 25 Mar. 2014.

Water Quality Control Division. 2007. Public Opinions on Water Quality Issues. Prepared by Corona Research.

Water Quality Control Division. 2012. Integrated Water Quality Monitoring and Assessment Report.

[Coley/Forrest. "Water and its Relationship to the Economies of the Headwaters Counties." http://nwccog.org/docs/qq/QQStudy_Outreach%20Summary%20Jan%202012.pdf.](http://nwccog.org/docs/qq/QQStudy_Outreach%20Summary%20Jan%202012.pdf)

Cover Sheet for Input Document, #72

The document listed 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: April 28, 2014 through May 2, 2014

Input provided by: 137 emails generated from individuals who submitted a form letter online through saveourevironment.org

Method of submission: Email to cowaterplan@state.co.us

Summary of Input: "Gov. Hickenlooper has said that "every conversation about water should begin with conservation," and I could not agree more. Water is our most precious natural resource and we must take steps now to protect and preserve it in a way that will benefit Colorado's rivers, wildlife, recreation, agriculture, businesses and residents. As you oversee the creation of a plan to meet our future water needs, I urge you to prioritize the following goals: 1. Keep Colorado's rivers healthy and flowing. Colorado's rivers are an integral part of our unique heritage and way of life. Rivers support our wildlife, agriculture, and a multi-billion dollar tourism industry. Protecting and restoring our rivers must be a top priority. 2. Increase and prioritize efficiency and conservation. Finding ways to reduce our water usage is crucial to our ability to meet our growing water needs. State studies have shown that water providers will need to reduce current water use by 35% by 2050 in order to meet our future demands. Expand conservation incentives, increase indoor and outdoor efficiency and support recycling programs. 3. Modernize agricultural and water sharing practices. The state should support voluntary, compensated, and flexible water-sharing agreements between agricultural producers and growing communities while respecting their water rights, as well as incentives to improve agricultural infrastructure that benefits operations and rivers. 4. Avoid new, large, trans-mountain water diversion projects. Trans-mountain diversion projects that drain water from West Slope rivers to supply growing Front Range demands are controversial, costly and \damaging. Prioritize conservation and reuse so we can make every drop count and avoid the need for these projects. Thank you for helping to keep these four goals at the forefront of Colorado's water plan drafting process."

Documents Submitted for Review: A separate attachment was created for the Board packet including 137 emails

Staff Response: Colorado's Water Plan will support Colorado's rivers as will be described in Section 5.9, address the need for increased conservation as described in Subsection 5.6.1, and the need for agricultural efficiencies and water sharing practices as described in 5.6.4 and 5.7. With regard to new transmountain diversion projects, the IBCC is exploring innovative ways to address this issue in a balanced manner. 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 move forward with this option should it be needed, based on the IBCC's work.

Cover Sheet for Input Document, #73

The document listed 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: March 18, 2014 through April 28, 2014

Input provided by: 8 emails generated from individuals who submitted a form letter online through Conservation Colorado

Method of submission: Email to cowaterplan@state.co.us

Summary of Input: Form letter text base: "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."

Documents Submitted for Review: A separate attachment was created for the Board packet including 8 emails

Staff Response: Colorado's Water Plan will support Colorado's rivers as will be described in Section 5.9, address the need for increased conservation as described in Subsection 5.6.1, and the need for agricultural efficiencies and water sharing practices as described in 5.6.4 and 5.7. With regard to new transmountain diversion projects, the IBCC is exploring innovative ways to address this issue in a balanced manner. 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



coloradowaterplan.com

cowaterplan@state.co.us

Direct 303-866-3441

will not include any specific transmountain water project, but it will discuss how we can move forward with this option should it be needed, based on the IBCC's work.

Cover Sheet for Input Document, #74

The document listed 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: May 2, 2014

Input provided by: Stephanie Scott, Colorado Trout Unlimited

Method of submission: Email to Kate McIntire, forwarded to cowaterplan@state.co.us

Summary of Input: Text from email: "Thank you for the opportunity to submit materials to the CWCB Board and also for the time to speak to them at the board meeting. Attached are the final packets that Trout Unlimited has prepared that are specific to each basin. These packets are our suggested content for the basin implementation plans. While we intended on developing comments for all 9 basin we realized that it was best to focus on just the ones attached. We have combined the South Platte and Metro comments into one packet. For the basins that do not have comments we are still pushing our TU Water Plan Principles to be incorporated into the BIP and our members will be involved at the meetings. Those principles are attached to this email in a separate document. After speaking with roundtable representatives it was suggested that we included both broad level and specific detailed comments. Per this request we have gathered and organized the packets into 3 sections to make it easier for the roundtables to incorporate the comments.

- The first section includes broad principles that Trout Unlimited would like to see incorporated into all of the BIPs throughout CO.
- The second includes bullet point comments that are specific to each of the basins.
- The third section lays out each of those bullet points in more detail.

I will be the one speaking at the CWCB Board meeting. I will be presenting these packets to the board and explain the outreach that Trout Unlimited has done on the water plan, emphasize the opportunity for the CWCB Board and Trout Unlimited to work together and give a brief overview of our high level principles. Please let me know if there is anything else that you need."

Documents Submitted for Review: Comments in attached letters

Staff Response: Staff appreciates the considerable work Trout Unlimited (TU) put into the comments provided and will pass each of the basin-specific documents to the respective BRTs. With regard to TU's Water Plan Principles, "meaningful efforts to protect and restore healthy rivers and streams" will be incorporated into Section 5.9 and the BIPs. The CWCB expects that the BIPs will help refine the municipal supply gap and Colorado's Water Plan will emphasize efficient use of Colorado's Water supplies in Section 5.6. The initial draft of Chapter 5.6, released in May for public review, explores conservation and reuse. Colorado's Water Plan suggests that at a minimum and in the near term, Colorado should seek to implement "medium" conservation practices while acknowledging that in the future "high" levels of conservation may be needed depending on which scenario presents itself in Colorado. Section 5.7 is also now available for public review on Alternative Transfer Methods and the BIPs will explore the integration of water supply systems. Overall, TU's Water Plan Principles are consistent with the values expressed in Colorado's Water Plan and the plan will encourage multi-purpose projects. With regard to new transmountain diversion projects, the IBCC is exploring innovative ways to address this issue in a balanced manner. Lastly, CWCB will consider the laws and policies suggested by TU to facilitate creative water management when drafting Section 5.11.

Trout Unlimited's Comments for Colorado's Water Plan

Trout Unlimited's Statewide Colorado Water Plan Principles

Colorado Trout Unlimited's board of directors, which includes representation for 24 local chapters statewide, supported the following core principles as measures that should be reflected in the Colorado Water Plan.

- 1. The Colorado Water Plan must include meaningful efforts to protect and restore healthy rivers and streams and environmental and recreation uses of water.** Just as it is important to address consumptive water supply "gaps", the State must also document and address its environmental and recreational supply gap. Healthy rivers are vital to communities, promote property values, support a strong recreation economy, and contribute to the quality of life that makes Colorado a great place to live. Beyond identifying focus reaches with key values for protection and restoration, the Colorado Water Plan should lay out specific actions to assess and quantify environmental and recreational needs in each basin, timelines for implementation of both the needs assessments and projects to provide for those needs, and resources to complete them. By way of illustration, projects could include restoration of river and wetland habitat, appropriation and acquisition of instream flows to protect, enhance and restore the environment, management of new and existing water supply projects to enhance flows, and collaborations with irrigators to increase efficiency and keep more water in-stream. Colorado's Water Plan should ensure that our State continues to enjoy the many ecological, social, and economic benefits of healthy rivers.
- 2. Basin implementation plans need to help refine the municipal supply "gap" at a local level.** Planning to meet future water demands depends on understanding what the needs are at a local level, so that strategies can be designed to provide water when and where it is actually needed.
- 3. Filling the municipal water supply gap requires a balanced strategy emphasizing efficient use of Colorado's limited water supplies.**
 - a. High water conservation targets should be reflected in basin implementation plans.** Water efficiency is the cheapest, fastest, and least environmentally-damaging way to meet growing municipal water needs in communities across Colorado. As technology improves, and with use of incentives to further promote xeric landscaping, water conservation can go a long way in helping fill Colorado's future water supply gap. State policies should promote such conservation efforts throughout Colorado. Our water



resources are limited, and maximizing the efficiency with which they are used must be a cornerstone of statewide water policy.

- b. Water re-use should be an increasing part of meeting future water needs.** Where water can legally be reused to extinction (transbasin water, already converted consumptive use water, non-tributary groundwater), it should be. This is part of maximizing the use of existing (or new) water supplies to meet demands. Necessary infrastructure for treatment and delivery of re-use water should be incentivized with state funding.
- c. Alternative transfer mechanisms and improved agricultural efficiency should be used to meet growing needs while maintaining agriculture and protecting Colorado's environment** Irrigated agriculture provides far-reaching benefits to the economy, environment and quality of life in Colorado. The state should support water sharing arrangements – from water banks to rotational fallowing – that can help meet municipal supply needs and maintain healthy rivers while avoiding the social, economic and environmental impacts associated with traditional “buy and dry” transfers. The focus should be on temporary transfers, not permanent fallowing of irrigated ground. State support could include funding support as well as legal and policy changes to reduce the burdens and risks associated with such nontraditional water sharing agreements. The state should also support infrastructure improvements to benefit agricultural operations, healthy flows, recreation, and local communities.
- d. Better integration of water supply systems can help increase efficient use of Colorado's water.** Collaborative efforts among water suppliers can help use strengths in one supply system to bolster weaknesses in another, and vice versa – which will help increase the overall efficiency and reliability with which water can be provided for present and future demands. Partnerships such as those envisioned with the WISE project between Denver Water and south-metro-area suppliers can help responsibly meet water needs more efficiently and effectively than a “go-it-alone” approach.
- e. Structural projects to bolster water supply should avoid harmful effects to rivers and local communities.** Where structural projects are needed to firm water supplies, provide storage for managing water yielded from other strategies like reuse, and otherwise assist in meeting future needs, they should be designed to avoid adverse impacts to environmental and community values. Given the importance of healthy rivers to Colorado's economy and quality of life, it is critical that future projects protect, and where possible enhance, non-consumptive water values. Projects that can provide multiple benefits should be encouraged. Partnerships – such as those under the Colorado River Cooperative Agreement and associated agreements – can be a key part of managing water supplies to provide those multiple benefits.
- f. A new large trans-basin diversion from the Colorado River is not the answer for meeting Front Range needs.** Local, focused projects (such as conservation, re-use, temporary agricultural transfers, and small-scale storage) can be tailored to address community-specific “gaps” in future supply in ways that large, costly transbasin



diversions cannot. Such diversions also create risks of over-development of Colorado's compact entitlements, cause significant environmental impacts, and threaten West Slope agriculture and communities. These projects generate great controversy and conflict, and can result in lengthy, costly permitting processes with uncertain outcomes. Colorado will be better served by the other water supply strategies described above.

4. Laws and policies to facilitate creative water management should be encouraged.

Current law and policy may be an obstacle to many of the water supply strategies discussed above. Transaction costs and risks to existing water rights can be major roadblocks to creative solutions to better meet Colorado's water needs. Colorado should adopt legislation and policy to help encourage rather than discourage creative arrangements for efficient water supply and water sharing. Current legislative efforts to encourage agricultural efficiency and protect instream values (SB 23) or to allow flexible marketing of water generated through changes within agricultural operations (HB 1026) are examples of changes that can help promote creative solutions for better meeting Colorado's future water supply needs.



Trout Unlimited's Rio Grande River Basin Comment Overview

In addition to broad statewide policy and principles, the Trout Unlimited chapter within the Rio Grande basin offered comments on a number of basin-specific needs, project and processes. Our in-basin chapter is the San Luis Valley Chapter of Trout Unlimited.

Our comments are provided under a few core themes, accompanied by specific suggestions on both nonconsumptive and consumptive IPPs. These core themes are:

- ***Developing Measures for IPPS – IPPS need to continue to incorporate multi-use benefit considering non-consumptive, environmental, and recreation needs. To do this successfully there needs to be a mechanism for developing hard numbers to measure the non-consumptive benefits and a method to evaluate those numbers in the future as demands change.***
- ***Rio Grande Reservoir and Beaver Reservoir- These projects as included in the Rio Grande Cooperative Project are important projects for TU. These projects are beneficial for agriculture, environment, recreation, and also for agencies. While these projects are collaborative it would be helpful to find a mechanism for the general public to get more involved in large projects like these.***
- ***Non-Consumptive Needs- Overall TU feels that the current BIP process is capturing the needs of the cold water fisheries. Measurable outcomes are being developed but it is proving to be difficult for some goals that are important to river health. Some goals need a definitive measure before the BIP is complete.***
- ***Non-Nonconsumptive Projects- Conejos River- TU has been involved improving habitat along the Conejos River and will continue that work. TU will start working on various Cutthroat projects on Sand Creek and possibly Jim Creek.***
- ***Other Resources- BIP should reference some other completed plans that have been developed in the Rio Grande Basin:***
 - ***The Rio Grande Cutthroat Trout Conservation Strategy***
 - ***The Rio Grande Watershed Restoration Strategic Plan***
 - ***The Nature Conservancy's recent risk analysis for wildfire throughout the range of the Rio Grande Cutthroat***

Our more detailed comments follow.



Developing Measures for IPPs

The identified Consumptive use IPPs from SWSI 2010 in the Rio Grande incorporate general Non-Consumptive and Recreational needs to a fair degree. Below are our comments on the identified IPPs.

- The IPPs focus on two categories to meet the future gap, which are growth into existing supplies and firming in-basin water rights.
- Growth into existing supplies relates to reservoir rehabilitation and possible enlargement and increasing efficiency through infrastructure and technology.
- Firming in-basin rights has to do with water management and administration. This deals with the Rio Grande Compact, irrigation, Sub Districts and the groundwater rules, and environmental needs.

In general, the IPPs do a good job of the conceptual integration of multi-use benefits that consider non-consumptive, environmental, and recreational needs.

The concern from Trout Unlimited would be that there currently aren't any hard numbers that are measurable in terms of Non-Consumptive benefits in proposed and on-going consumptive use projects.

Rio Grande and Beaver Reservoir

Trout Unlimited has been closely working on the Rio Grande Reservoir and Beaver Reservoir rehabilitation projects and the corresponding Rio Grande Cooperative project.

- Phase 1 of the rehab project at RG reservoir to address seepage is complete. Phase 2 starts next year to address upgrades in the outlet works. Beaver Reservoir is going to begin rehabilitation work next year. Discussions between the San Luis Valley Irrigation District and Colorado Parks and Wildlife are underway to talk about how new water management practices can have multiple benefits for environmental and agricultural needs. Details on this process are vague at this time.
- An Alternative Methods Transfer analysis has recently begun to identify options for combining existing water supplies in Platoro Reservoir and Trujillo Meadows Reservoir on the Conejos River system. The study will look into ways to get more benefit of the combined water supplies to agriculture, the Rio Grande Compact, and streams. Details have not been developed.



- Water delivery efficiency and Irrigation system efficiency has been identified in SWSI 2010 and there is language that relates to incorporating non-consumptive and recreational needs in these projects. An example would be to provide fish and boat passage on an engineered diversion structure that helps stabilize the channel and make water delivery more efficient.

Trout Unlimited's participation in all of these identified projects makes perfect sense given the overall intent for multi-purpose results and the fact that all of them have implications to the river and the fish. In the SLV we are hoping to participate at the chapter level and the staff level with the Colorado Water Project. A general concern is that there is not a standard mechanism for how the public and groups like TU get to be involved.

Non-Consumptive Needs

Non-consumptive Goals and Measurable Outcomes

- The draft NC goals for the Rio Grande BIP do a good job of capturing the broad scale needs of cold water fisheries.
- The measurable outcomes are being developed and there is consensus on desired outcomes. However, the measurable aspect is proving difficult for some of the goals.

Non Consumptive Identified Projects

- The mapping effort that was done in SWSI 2010 to ID projects and processes is difficult to use for the BIP
- The NC/REC subcommittee has identified a lot of projects that were initially thought of as goals or measurable outcomes but were too detailed. These projects will be grouped under the appropriate goals for the plan

Trout Unlimited is currently working on these projects within the Rio Grande Basin which should be incorporated with the BIP:

- The chapter has been working on Habitat work on the Conejos
- Planning to start working on Cutthroat projects on Sand Creek and possibly Jim Creek.
- We expect to have other future projects that we will propose for inclusion with future revisions to the BIP."



Other Resources

Trout Unlimited has used these plans/resources in the past to help guide our work. These plans are useful for identifying projects and proposed management actions and should be incorporated with the BIP effort. There are likely other planning documents that could also be used.

- The Rio Grande Cutthroat Trout conservation strategy
- The Rio Grande Watershed Restoration Strategic Plan
- The Nature Conservancy recently did a risk analysis for wildfire throughout the range of Rio Grande Cutthroat.



Trout Unlimited's Comments for Colorado's Water Plan

Trout Unlimited's Statewide Colorado Water Plan Principles

Colorado Trout Unlimited's board of directors, which includes representation for 24 local chapters statewide, supported the following core principles as measures that should be reflected in the Colorado Water Plan.

- 1. The Colorado Water Plan must include meaningful efforts to protect and restore healthy rivers and streams and environmental and recreation uses of water.** Just as it is important to address consumptive water supply "gaps", the State must also document and address its environmental and recreational supply gap. Healthy rivers are vital to communities, promote property values, support a strong recreation economy, and contribute to the quality of life that makes Colorado a great place to live. Beyond identifying focus reaches with key values for protection and restoration, the Colorado Water Plan should lay out specific actions to assess and quantify environmental and recreational needs in each basin, timelines for implementation of both the needs assessments and projects to provide for those needs, and resources to complete them. By way of illustration, projects could include restoration of river and wetland habitat, appropriation and acquisition of instream flows to protect, enhance and restore the environment, management of new and existing water supply projects to enhance flows, and collaborations with irrigators to increase efficiency and keep more water in-stream. Colorado's Water Plan should ensure that our State continues to enjoy the many ecological, social, and economic benefits of healthy rivers.
- 2. Basin implementation plans need to help refine the municipal supply "gap" at a local level.** Planning to meet future water demands depends on understanding what the needs are at a local level, so that strategies can be designed to provide water when and where it is actually needed.
- 3. Filling the municipal water supply gap requires a balanced strategy emphasizing efficient use of Colorado's limited water supplies.**
 - a. High water conservation targets should be reflected in basin implementation plans.** Water efficiency is the cheapest, fastest, and least environmentally-damaging way to meet growing municipal water needs in communities across Colorado. As technology improves, and with use of incentives to further promote xeric landscaping, water conservation can go a long way in helping fill Colorado's future water supply gap. State policies should promote such conservation efforts throughout Colorado. Our water resources are limited, and maximizing the efficiency with which they are used must be a cornerstone of statewide water policy.



- b. Water re-use should be an increasing part of meeting future water needs.** Where water can legally be reused to extinction (transbasin water, already converted consumptive use water, non-tributary groundwater), it should be. This is part of maximizing the use of existing (or new) water supplies to meet demands. Necessary infrastructure for treatment and delivery of re-use water should be incentivized with state funding.
- c. Alternative transfer mechanisms and improved agricultural efficiency should be used to meet growing needs while maintaining agriculture and protecting Colorado's environment** Irrigated agriculture provides far-reaching benefits to the economy, environment and quality of life in Colorado. The state should support water sharing arrangements – from water banks to rotational fallowing – that can help meet municipal supply needs and maintain healthy rivers while avoiding the social, economic and environmental impacts associated with traditional “buy and dry” transfers. The focus should be on temporary transfers, not permanent fallowing of irrigated ground. State support could include funding support as well as legal and policy changes to reduce the burdens and risks associated with such nontraditional water sharing agreements. The state should also support infrastructure improvements to benefit agricultural operations, healthy flows, recreation, and local communities.
- d. Better integration of water supply systems can help increase efficient use of Colorado's water.** Collaborative efforts among water suppliers can help use strengths in one supply system to bolster weaknesses in another, and vice versa – which will help increase the overall efficiency and reliability with which water can be provided for present and future demands. Partnerships such as those envisioned with the WISE project between Denver Water and south-metro-area suppliers can help responsibly meet water needs more efficiently and effectively than a “go-it-alone” approach.
- e. Structural projects to bolster water supply should avoid harmful effects to rivers and local communities.** Where structural projects are needed to firm water supplies, provide storage for managing water yielded from other strategies like reuse, and otherwise assist in meeting future needs, they should be designed to avoid adverse impacts to environmental and community values. Given the importance of healthy rivers to Colorado's economy and quality of life, it is critical that future projects protect, and where possible enhance, non-consumptive water values. Projects that can provide multiple benefits should be encouraged. Partnerships – such as those under the Colorado River Cooperative Agreement and associated agreements – can be a key part of managing water supplies to provide those multiple benefits.
- f. A new large trans-basin diversion from the Colorado River is not the answer for meeting Front Range needs.** Local, focused projects (such as conservation, re-use, temporary agricultural transfers, and small-scale storage) can be tailored to address community-specific “gaps” in future supply in ways that large, costly transbasin diversions cannot. Such diversions also create risks of over-development of Colorado's compact entitlements, cause significant environmental impacts, and threaten West



Slope agriculture and communities. These projects generate great controversy and conflict, and can result in lengthy, costly permitting processes with uncertain outcomes. Colorado will be better served by the other water supply strategies described above.

4. Laws and policies to facilitate creative water management should be encouraged.

Current law and policy may be an obstacle to many of the water supply strategies discussed above. Transaction costs and risks to existing water rights can be major roadblocks to creative solutions to better meet Colorado's water needs. Colorado should adopt legislation and policy to help encourage rather than discourage creative arrangements for efficient water supply and water sharing. Current legislative efforts to encourage agricultural efficiency and protect instream values (SB 23) or to allow flexible marketing of water generated through changes within agricultural operations (HB 1026) are examples of changes that can help promote creative solutions for better meeting Colorado's future water supply needs.



Trout Unlimited's Southwest River Basin Comment Overview

In addition to broad statewide policy and principles, Trout Unlimited chapters within the Southwest Basin offered comments on a number of basin-specific needs, project and processes. Our in-basin chapters are: Dolores River Anglers (Cortez) and Fiver Rivers Chapter (Durango).

The Southwest Basin Roundtable is unique in that it encompasses a very large geographic area with a wide range of values and economic interests. We value our agricultural heritage and the natural beauty that surround us. Our communities rely on tourism, fueled by that natural beauty and the recreational opportunities it presents. We are also mindful of the need for moderate and healthy population growth and the opportunities provided by industry. Our water plan needs to reflect and balance all these values. Unfortunately, while our agricultural, municipal and industrial water needs are fairly well understood, our environmental and recreational water needs are not. We understand that, given the state deadlines, this information cannot be developed before completion of the BIP. We urge the SWBRT to commit to develop this information and to integrate it into the BIP as soon as possible. Only in this manner will we be able to honor ALL of the values of this rich region.

Our comments are provided under a few core themes, accompanied by specific suggestions on both nonconsumptive and consumptive IPPs. These core themes are:

- ***Cutthroat Restoration- the Five Rivers Chapter of TU is currently doing work on Hermosa Creek (from confluence of Hermosa Creek main stem and East Fork Hermosa Creek) and have partnered with Colorado Parks and Wildlife, and the United States Forest Service. This project is the highest priority for Trout Unlimited.***
- ***Policy Efforts for Hermosa Creek-***
 - ***Wild and Scenic Designation on Hermosa Creek efforts are underway. The enactment of a W & S Designation would be strong measurable outcome for the Basin Implementation Plan.***
 - ***TU has been a big player in the current Hermosa Creek Federal legislation which would establish additional Special Management Area and Wilderness Protections for the Hermosa Creek Watershed. This legislation provides strong measurable outcomes for the BIP if passed.***
- ***RICD on the Animas River- TU has been instrumental in urging the city to pursue the Recreational In-Channel Diversion (RICD) at the Whitewater Park at Smelter Rapids. This project is important for the in-stream development of the Animas through Durango.***
- ***Animas Watershed Management Plan- Fiver Rivers TU is represented on this partnership and feels that this is an essential partnership for responsible development of the Animas Watershed. Measurable goals for this workgroup should be incorporated into the Basin Implementation Plan.***
- ***Current TU IPPs- Trout Unlimited is currently working on and supporting these IPPS, Redburn Ranch and the Upper Dolores River Assessment.***



Our more detailed comments follow.

Cutthroat Restoration

Restoration of native cutthroat trout on Hermosa Creek from the confluence of Hermosa Creek main stem and East Fork Hermosa Creek is currently underway in partnership with Colorado Parks and Wildlife and the United States Forest Service and is of highest priority for Trout Unlimited in the basin. Trout Unlimited is supporting the restoration efforts with money and manpower. We encourage the Basin Roundtable to make this watershed and restoration of cutthroats within it an environmental/recreation priority in the Basin Implementation Plan.

Policy Efforts for Hermosa Creek

There are currently two main pieces of legislation that Trout Unlimited is pushing for in the basin. The first is the Wild and Scenic designation for Hermosa Creek and the second is the current legislation for Hermosa Creek. The River Protection Workgroup is making an effort to get consensus on Wild and Scenic designation for Hermosa Creek and Trout Unlimited supports this designation and will help with the grassroots organizing of the effort if it develops further. The current federal legislation for Hermosa Creek works to establish additional Special Management Area and Wilderness Protections for the Hermosa Creek Watershed. Trout Unlimited has been a major player in gaining bi-partisan support for this piece of legislation. We feel that passing both of these pieces of legislation (currently introduced legislation and enactment of W&S Designation) should be included as a measurable outcome in the Basin Implementation Plan. The River Protection Workgroups have been successful in identifying parts of the Piedra and Animas watersheds that would be protected from future storage projects; we hope to see more of this in the future.

RICD on the Animas River

Trout Unlimited has been working with the City of Durango and has been an instrumental in urging the city to pursue the Recreational In-Channel Diversion (RICD) on the Animas River. The City of Durango is in the process of installing required structures at the Whitewater Park at Smelter Rapids on the Animas River to perfect the RICD that has been granted on a conditional basis. Trout Unlimited supports this in-channel development.

Animas River Watershed Management Plan

Trout Unlimited is represented on the Animas Watershed Partnership by members of our Fiver Rivers Trout Unlimited Chapter. This partnership is responsible for development of the Animas Watershed Management Plan as relates to nutrients loading. Partnership development and cooperation such as this should be built into the basin implementation plans.

Current TU IPPs- Trout Unlimited is currently working on and supporting these IPPS, Redburn Ranch and the Upper Dolores River Assessment.



- O Trout Unlimited and Redburn Ranch. Replace a cobble push-up diversion dam and associated irrigation infrastructure to improve operation and to allow fish and sediment passage and promote channel stability.
- O Trout Unlimited and Montezuma Land Conservancy. Upper Dolores River Assessment. This is an assessment of fisheries and riparian conditions of the Upper Dolores Watershed aimed at applying the best science to help strategic planning for targeted restoration activities. Identify possible restoration and irrigation infrastructure improvement partnerships in the Dolores Watershed. Identify reaches of the Dolores main stem for restoration work. Identify and implement monitoring and restoration projects on critical and important streams containing conservation populations of native trout. Identify and prepare critical and important streams for reconnection / isolation and reintroduction of native trout.



Trout Unlimited's Comments for Colorado's Water Plan

Trout Unlimited's Statewide Colorado Water Plan Principles

Colorado Trout Unlimited's board of directors, which includes representation for 24 local chapters statewide, supported the following core principles as measures that should be reflected in the Colorado Water Plan.

- 1. The Colorado Water Plan must include meaningful efforts to protect and restore healthy rivers and streams and environmental and recreation uses of water.** Just as it is important to address consumptive water supply "gaps", the State must also document and address its environmental and recreational supply gap. Healthy rivers are vital to communities, promote property values, support a strong recreation economy, and contribute to the quality of life that makes Colorado a great place to live. Beyond identifying focus reaches with key values for protection and restoration, the Colorado Water Plan should lay out specific actions to assess and quantify environmental and recreational needs in each basin, timelines for implementation of both the needs assessments and projects to provide for those needs, and resources to complete them. By way of illustration, projects could include restoration of river and wetland habitat, appropriation and acquisition of instream flows to protect, enhance and restore the environment, management of new and existing water supply projects to enhance flows, and collaborations with irrigators to increase efficiency and keep more water in-stream. Colorado's Water Plan should ensure that our State continues to enjoy the many ecological, social, and economic benefits of healthy rivers.
- 2. Basin implementation plans need to help refine the municipal supply "gap" at a local level.** Planning to meet future water demands depends on understanding what the needs are at a local level, so that strategies can be designed to provide water when and where it is actually needed.
- 3. Filling the municipal water supply gap requires a balanced strategy emphasizing efficient use of Colorado's limited water supplies.**
 - a. High water conservation targets should be reflected in basin implementation plans.** Water efficiency is the cheapest, fastest, and least environmentally-damaging way to meet growing municipal water needs in communities across Colorado. As technology improves, and with use of incentives to further promote xeric landscaping, water conservation can go a long way in helping fill Colorado's future water supply gap. State policies should promote such conservation efforts throughout Colorado. Our water resources are limited, and maximizing the efficiency with which they are used must be a cornerstone of statewide water policy.



- b. Water re-use should be an increasing part of meeting future water needs.** Where water can legally be reused to extinction (transbasin water, already converted consumptive use water, non-tributary groundwater), it should be. This is part of maximizing the use of existing (or new) water supplies to meet demands. Necessary infrastructure for treatment and delivery of re-use water should be incentivized with state funding.
- c. Alternative transfer mechanisms and improved agricultural efficiency should be used to meet growing needs while maintaining agriculture and protecting Colorado's environment** Irrigated agriculture provides far-reaching benefits to the economy, environment and quality of life in Colorado. The state should support water sharing arrangements – from water banks to rotational fallowing – that can help meet municipal supply needs and maintain healthy rivers while avoiding the social, economic and environmental impacts associated with traditional “buy and dry” transfers. The focus should be on temporary transfers, not permanent fallowing of irrigated ground. State support could include funding support as well as legal and policy changes to reduce the burdens and risks associated with such nontraditional water sharing agreements. The state should also support infrastructure improvements to benefit agricultural operations, healthy flows, recreation, and local communities.
- d. Better integration of water supply systems can help increase efficient use of Colorado's water.** Collaborative efforts among water suppliers can help use strengths in one supply system to bolster weaknesses in another, and vice versa – which will help increase the overall efficiency and reliability with which water can be provided for present and future demands. Partnerships such as those envisioned with the WISE project between Denver Water and south-metro-area suppliers can help responsibly meet water needs more efficiently and effectively than a “go-it-alone” approach.
- e. Structural projects to bolster water supply should avoid harmful effects to rivers and local communities.** Where structural projects are needed to firm water supplies, provide storage for managing water yielded from other strategies like reuse, and otherwise assist in meeting future needs, they should be designed to avoid adverse impacts to environmental and community values. Given the importance of healthy rivers to Colorado's economy and quality of life, it is critical that future projects protect, and where possible enhance, non-consumptive water values. Projects that can provide multiple benefits should be encouraged. Partnerships – such as those under the Colorado River Cooperative Agreement and associated agreements – can be a key part of managing water supplies to provide those multiple benefits.
- f. A new large trans-basin diversion from the Colorado River is not the answer for meeting Front Range needs.** Local, focused projects (such as conservation, re-use, temporary agricultural transfers, and small-scale storage) can be tailored to address community-specific “gaps” in future supply in ways that large, costly transbasin diversions cannot. Such diversions also create risks of over-development of Colorado's compact entitlements, cause significant environmental impacts, and threaten West Slope agriculture and communities. These projects generate great controversy and



conflict, and can result in lengthy, costly permitting processes with uncertain outcomes. Colorado will be better served by the other water supply strategies described above.

4. Laws and policies to facilitate creative water management should be encouraged.

Current law and policy may be an obstacle to many of the water supply strategies discussed above. Transaction costs and risks to existing water rights can be major roadblocks to creative solutions to better meet Colorado's water needs. Colorado should adopt legislation and policy to help encourage rather than discourage creative arrangements for efficient water supply and water sharing. Current legislative efforts to encourage agricultural efficiency and protect instream values (SB 23) or to allow flexible marketing of water generated through changes within agricultural operations (HB 1026) are examples of changes that can help promote creative solutions for better meeting Colorado's future water supply needs.



Trout Unlimited's Comments for Colorado's Water Plan

Trout Unlimited's Statewide Colorado Water Plan Principles

Colorado Trout Unlimited's board of directors, which includes representation for 24 local chapters statewide, supported the following core principles as measures that should be reflected in the Colorado Water Plan.

- 1. The Colorado Water Plan must include meaningful efforts to protect and restore healthy rivers and streams and environmental and recreation uses of water.** Just as it is important to address consumptive water supply "gaps", the State must also document and address its environmental and recreational supply gap. Healthy rivers are vital to communities, promote property values, support a strong recreation economy, and contribute to the quality of life that makes Colorado a great place to live. Beyond identifying focus reaches with key values for protection and restoration, the Colorado Water Plan should lay out specific actions to assess and quantify environmental and recreational needs in each basin, timelines for implementation of both the needs assessments and projects to provide for those needs, and resources to complete them. By way of illustration, projects could include restoration of river and wetland habitat, appropriation and acquisition of instream flows to protect, enhance and restore the environment, management of new and existing water supply projects to enhance flows, and collaborations with irrigators to increase efficiency and keep more water in-stream. Colorado's Water Plan should ensure that our State continues to enjoy the many ecological, social, and economic benefits of healthy rivers.
- 2. Basin implementation plans need to help refine the municipal supply "gap" at a local level.** Planning to meet future water demands depends on understanding what the needs are at a local level, so that strategies can be designed to provide water when and where it is actually needed.
- 3. Filling the municipal water supply gap requires a balanced strategy emphasizing efficient use of Colorado's limited water supplies.**
 - a. High water conservation targets should be reflected in basin implementation plans.** Water efficiency is the cheapest, fastest, and least environmentally-damaging way to meet growing municipal water needs in communities across Colorado. As technology improves, and with use of incentives to further promote xeric landscaping, water conservation can go a long way in helping fill Colorado's future water supply gap. State policies should promote such conservation efforts throughout Colorado. Our water resources are limited, and maximizing the efficiency with which they are used must be a cornerstone of statewide water policy.



- b. Water re-use should be an increasing part of meeting future water needs.** Where water can legally be reused to extinction (transbasin water, already converted consumptive use water, non-tributary groundwater), it should be. This is part of maximizing the use of existing (or new) water supplies to meet demands. Necessary infrastructure for treatment and delivery of re-use water should be incentivized with state funding.
- c. Alternative transfer mechanisms and improved agricultural efficiency should be used to meet growing needs while maintaining agriculture and protecting Colorado's environment** Irrigated agriculture provides far-reaching benefits to the economy, environment and quality of life in Colorado. The state should support water sharing arrangements – from water banks to rotational fallowing – that can help meet municipal supply needs and maintain healthy rivers while avoiding the social, economic and environmental impacts associated with traditional “buy and dry” transfers. The focus should be on temporary transfers, not permanent fallowing of irrigated ground. State support could include funding support as well as legal and policy changes to reduce the burdens and risks associated with such nontraditional water sharing agreements. The state should also support infrastructure improvements to benefit agricultural operations, healthy flows, recreation, and local communities.
- d. Better integration of water supply systems can help increase efficient use of Colorado's water.** Collaborative efforts among water suppliers can help use strengths in one supply system to bolster weaknesses in another, and vice versa – which will help increase the overall efficiency and reliability with which water can be provided for present and future demands. Partnerships such as those envisioned with the WISE project between Denver Water and south-metro-area suppliers can help responsibly meet water needs more efficiently and effectively than a “go-it-alone” approach.
- e. Structural projects to bolster water supply should avoid harmful effects to rivers and local communities.** Where structural projects are needed to firm water supplies, provide storage for managing water yielded from other strategies like reuse, and otherwise assist in meeting future needs, they should be designed to avoid adverse impacts to environmental and community values. Given the importance of healthy rivers to Colorado's economy and quality of life, it is critical that future projects protect, and where possible enhance, non-consumptive water values. Projects that can provide multiple benefits should be encouraged. Partnerships – such as those under the Colorado River Cooperative Agreement and associated agreements – can be a key part of managing water supplies to provide those multiple benefits.
- f. A new large trans-basin diversion from the Colorado River is not the answer for meeting Front Range needs.** Local, focused projects (such as conservation, re-use, temporary agricultural transfers, and small-scale storage) can be tailored to address community-specific “gaps” in future supply in ways that large, costly transbasin diversions cannot. Such diversions also create risks of over-development of Colorado's compact entitlements, cause significant environmental impacts, and threaten West Slope agriculture and communities. These projects generate great controversy and



conflict, and can result in lengthy, costly permitting processes with uncertain outcomes. Colorado will be better served by the other water supply strategies described above.

4. Laws and policies to facilitate creative water management should be encouraged.

Current law and policy may be an obstacle to many of the water supply strategies discussed above. Transaction costs and risks to existing water rights can be major roadblocks to creative solutions to better meet Colorado's water needs. Colorado should adopt legislation and policy to help encourage rather than discourage creative arrangements for efficient water supply and water sharing. Current legislative efforts to encourage agricultural efficiency and protect instream values (SB 23) or to allow flexible marketing of water generated through changes within agricultural operations (HB 1026) are examples of changes that can help promote creative solutions for better meeting Colorado's future water supply needs.



Trout Unlimited's Colorado River Basin Comments Overview

In addition to broad statewide policy and principles, Trout Unlimited chapters within the Colorado River basin offered comments on a number of basin-specific needs, project and processes. Our in-basin chapters are: Colorado River Headwaters (Fraser), Eagle Valley (Eagle), Ferdinand Hayden (Carbondale), Gore Range (Breckenridge), Grand Valley Anglers (Grand Junction).

Our comments are provided under a few core themes, accompanied by specific suggestions on both nonconsumptive and consumptive IPPs. These core themes are:

- ***Developing Measurable Maintenance Goals- Incorporating stream temperature, flow levels, and sediment transport measures into an ongoing maintenance plan for the CO River Basin. Develop baseline measures from past and current data. The basin plan needs to include a means for quantifying environmental needs and mapping them in all of the basins.***
- ***Native Cutthroat Restoration- Conduct a baseline study of where blue vs. green lineages of the cutthroat are to develop measurable goals in the future for restoring the cutthroat populations in the CO River Basin.***
- ***Windy Gap Bypass- Windy Gap is an important bypass that will reconnect the Colorado and Fraser Rivers. The success of this bypass should incorporate measures for sediment levels and the recovery of Mottled Sculpin and *Pteronarcys californica* (giant stonefly) back to the Colorado River below Windy Gap dam.***
- ***Securing Additional Flows- TU has been working throughout the basin to help secure additional flows through conservation, leasing current agriculture diversions, and through efficiency savings resulting from upgrading aging ag infrastructure.***
- ***Watershed Health and Management- TU has been involved with various partners to reconnect the Swan River. This project will reconnect habitat for the native cutthroat trout. We are also in the process of working on fish structure projects within the basin.***
- ***Timed releases from storage should continue to be included in all IPP plans. Late season releases are very helpful for the river and should be coordinated whenever possible.***
- ***The Colorado Water Plan must include mechanisms and resources to establish environmental and recreation water needs and gaps.***
- ***Determining the real water needs and existing conditions for environmental and recreational uses***

Our more detailed comments follow.



Developing Measurable Maintenance Goals-

It is imperative to recognize the severely degraded state many of our rivers are already in. It is dishonest to look at these streams in their current condition as a "natural" baseline from which to begin. We all need to take the environmental needs seriously and move to "phase 2", getting them quantified and detailed, not merely "identified" on maps (which is where the process stopped 4 years ago). Non-consumptive needs are real in their own right and not just "enhancements" to be added to consumptive projects.

Reducing late season temperature spikes to both chronic and acute levels is a priority for Trout Unlimited. Excessively warm water temperatures have been observed on the Fraser, Eagle and Colorado Rivers and probably elsewhere. Achieving a 90 – 95% rate of detection and at least a 95% rate of rapid response by water diverters to increase and maintain adequate flow regimes and rapidly cool heated water is a must. Over time, we should also replace outdated irrigation systems with electronic controls for more immediate control and response to regulate systems in response to non-consumptive needs.

Sediment transport and channel maintenance flows must be a priority in the Basin Implementation Plan as well. These stream indicators can be measured by the fish and macroinvertebrate health in the stream and by using water quality standards.

Including measurable goals like these will help ensure long-term sustained stream health. It will be important to get baseline data to monitor and enforce any future decline in the rivers.

Native Cutthroat Restoration-

Restoration of native cutthroat is another priority for Trout Unlimited wherever possible within the watershed. This will most likely be possible by finding new places to restock and attempt to increase occupied waters. A measure such as a percentage would provide a success measure - such as increasing the number of stable populations (or the extent of occupied habitat) by 50 percent. To implement this Colorado Parks & Wildlife needs to further define and identify its current cutthroat populations (green vs. blue lineage) and re-define management strategies and goals with regard to native cutthroat species in the basin. Trout Unlimited would like to be a partner in developing these measurable outcomes and baseline information; because we feel that without them it becomes harder to define success. Knowing where streams that once provided cutthroat habitat have been lost / compromised with trans-basin diversions and dewatering will be vital going forward.

Windy Gap Bypass

With federal permitting of two Firming Projects now on the horizon, there will be much work associated with restoring back to high quality levels and then sustaining - the current main stem upper Colorado River and Fraser River fisheries with the intent to not only prevent further decrease in biomass and numbers and size of adult fish – but to restore to the point of recovering lost forage species such as mottled Sculpin and *Pteronarycs californica* (giant stonefly) within the Colorado River below Windy Gap reservoir.



A major part of this will be the Windy Gap Bypass to reconnect the Colorado and Fraser Rivers and hopefully restore flow regimes and sediment transport. This bypass will improve conditions to allow recovery of Mottled Sculpin and *Pteronarcys californica* (giant stonefly) back to the Colorado River below Windy Gap dam as forage for trout and create a more balanced ecosystem. Measures to add to the basin implementation plan will be the measuring the populations of the sculpin and stonefly after the bypass is completed. Currently there are no populations of these species below Windy Gap.

Securing Additional Flows

In Grand County, securing additional flows through acquisitions and through partnerships with agriculture will be essential. Trout Unlimited is currently working with the ag community on the west slope on conservation projects such as leasing of current agricultural diversions or the efficiency savings gained from upgrading aging ag infrastructure and irrigation practices.

Current and future Trout Unlimited agriculture conservation projects will include water leasing and water acquisition project as well as any other type of project that would secure additional flows.

The goal of these acquisitions and leases would be to facilitate sediment transport and augment channel maintenance flows and to avoid temperature exceedance(s).

Future Trout Unlimited-supported stream flow projects include:

- Windy Gap Bypass
- Numerous stream re-channelization projects on private lands in both Fraser and Colorado Rivers in coordination with final permitting of Windy Gap Firming and Moffat projects and Learning By Doing funding availability.
- Camp Hale restoration project in Eagle County
- Trout Unlimited is also working with stakeholders on possible irrigation piping project on Abrams Creek (Eagle County) for benefit of green lineage Colorado River cutthroat trout.
- Trout Unlimited is also working on projects that include installing a fish ladder or other mechanism for fish passage.

Watershed Health/Management

Windy Gap bypass and Swan River reconnection projects are initiatives on which Trout Unlimited is focused to improve watershed health in the Colorado River basin. Trout Unlimited has mine reclamation staff in the state to help with these projects. TU has plans of partnering to removing fish barriers and installing fish passage structures in other areas of the basins including projects on the Colorado, Fraser, Williams Fork, Swan Rivers, in Grand and Summit counties. Such opportunities to reconnect watersheds and restore water quality should be encouraged through the BIP.



Some other specific IPPs that can help in this regard include the Grand County Stream Management Plan Phase 3 effort and the Upper Colorado Endangered Fish Recovery Water delivery (10,825 water) from Granby – especially if those releases can be timed to help local fisheries and prevent late season acute/chronic temperature exceedences. Other IPPs including the Vail Ditch acquisitions and the Old Dillon Reservoir enlargement offer the opportunity to have late season flows that will help with high temperatures and water quality. Continued operation of the Fraser River settling pond will help offset at least some sedimentation impacts on the river.

Incorporating Healthy River Values with Consumptive IPPs

One of the major opportunities to promote healthy rivers and the basin's environmental and recreational values will be through managing the *timing* of releases of any additional water(s) connected to consumptive IPP efforts. Multiple IPPs providing additional stored water that may be available for late season release should be coordinated wherever and whenever possible with any other available sources to get the maximum positive effect over time – especially in a late summer drought condition that continually threatens the health of the river or stream... (i.e. don't "dump them" all at once but try to spread the releases out to maximize benefits to the river).

Additionally, the manner of release of water from storage is also important. Stored water near the surface will become warmer, and if released could exacerbate existing temperature problems. In contrast, cooler releases from lower levels of deeper impoundments (where water stratifies during the summer) may help alleviate downstream temperature challenges.

Determining the real water needs and existing conditions for environmental and recreational uses

Just as it is important to address consumptive water supply "gaps", the State must also document and address its environmental and recreational supply needs and gap above and beyond vague intentions of enhancements for singular "attributes". The Colorado Water Plan should move beyond simply identifying focus reaches with key values for protection and restoration and lay out specific actions to assess, inventory and quantify systemic environmental and recreational needs in each basin. Each basin should develop a "River Management Plan" based on a sound scientific determination of actual water needs, existing environmental conditions that recognizes the connectivity and systemic needs of watersheds and river systems. Realistic and substantial projects and processes can then be proposed based on this foundation of understanding. Identifying and providing for specific environmental and recreational "attributes" is a start, but further investigation and examination of the systemic environmental needs that ultimately support these singular attributes must also be done.



Trout Unlimited's Comments for Colorado's Water Plan

Trout Unlimited's Statewide Colorado Water Plan Principles

Colorado Trout Unlimited's board of directors, which includes representation for 24 local chapters statewide, supported the following core principles as measures that should be reflected in the Colorado Water Plan.

- 1. The Colorado Water Plan must include meaningful efforts to protect and restore healthy rivers and streams and environmental and recreation uses of water.** Just as it is important to address consumptive water supply "gaps", the State must also document and address its environmental and recreational supply gap. Healthy rivers are vital to communities, promote property values, support a strong recreation economy, and contribute to the quality of life that makes Colorado a great place to live. Beyond identifying focus reaches with key values for protection and restoration, the Colorado Water Plan should lay out specific actions to assess and quantify environmental and recreational needs in each basin, timelines for implementation of both the needs assessments and projects to provide for those needs, and resources to complete them. By way of illustration, projects could include restoration of river and wetland habitat, appropriation and acquisition of instream flows to protect, enhance and restore the environment, management of new and existing water supply projects to enhance flows, and collaborations with irrigators to increase efficiency and keep more water in-stream. Colorado's Water Plan should ensure that our State continues to enjoy the many ecological, social, and economic benefits of healthy rivers.
- 2. Basin implementation plans need to help refine the municipal supply "gap" at a local level.** Planning to meet future water demands depends on understanding what the needs are at a local level, so that strategies can be designed to provide water when and where it is actually needed.
- 3. Filling the municipal water supply gap requires a balanced strategy emphasizing efficient use of Colorado's limited water supplies.**
 - a. High water conservation targets should be reflected in basin implementation plans.** Water efficiency is the cheapest, fastest, and least environmentally-damaging way to meet growing municipal water needs in communities across Colorado. As technology improves, and with use of incentives to further promote xeric landscaping, water conservation can go a long way in helping fill Colorado's future water supply gap. State policies should promote such conservation efforts throughout Colorado. Our water resources are limited, and maximizing the efficiency with which they are used must be a cornerstone of statewide water policy.
 - b. Water re-use should be an increasing part of meeting future water needs.** Where water can legally be reused to extinction (transbasin water, already converted



consumptive use water, non-tributary groundwater), it should be. This is part of maximizing the use of existing (or new) water supplies to meet demands. Necessary infrastructure for treatment and delivery of re-use water should be incentivized with state funding.

- c. **Alternative transfer mechanisms and improved agricultural efficiency should be used to meet growing needs while maintaining agriculture and protecting Colorado's environment** Irrigated agriculture provides far-reaching benefits to the economy, environment and quality of life in Colorado. The state should support water sharing arrangements – from water banks to rotational fallowing – that can help meet municipal supply needs and maintain healthy rivers while avoiding the social, economic and environmental impacts associated with traditional “buy and dry” transfers. The focus should be on temporary transfers, not permanent fallowing of irrigated ground. State support could include funding support as well as legal and policy changes to reduce the burdens and risks associated with such nontraditional water sharing agreements. The state should also support infrastructure improvements to benefit agricultural operations, healthy flows, recreation, and local communities.
- d. **Better integration of water supply systems can help increase efficient use of Colorado's water.** Collaborative efforts among water suppliers can help use strengths in one supply system to bolster weaknesses in another, and vice versa – which will help increase the overall efficiency and reliability with which water can be provided for present and future demands. Partnerships such as those envisioned with the WISE project between Denver Water and south-metro-area suppliers can help responsibly meet water needs more efficiently and effectively than a “go-it-alone” approach.
- e. **Structural projects to bolster water supply should avoid harmful effects to rivers and local communities.** Where structural projects are needed to firm water supplies, provide storage for managing water yielded from other strategies like reuse, and otherwise assist in meeting future needs, they should be designed to avoid adverse impacts to environmental and community values. Given the importance of healthy rivers to Colorado's economy and quality of life, it is critical that future projects protect, and where possible enhance, non-consumptive water values. Projects that can provide multiple benefits should be encouraged. Partnerships – such as those under the Colorado River Cooperative Agreement and associated agreements – can be a key part of managing water supplies to provide those multiple benefits.
- f. **A new large trans-basin diversion from the Colorado River is not the answer for meeting Front Range needs.** Local, focused projects (such as conservation, re-use, temporary agricultural transfers, and small-scale storage) can be tailored to address community-specific “gaps” in future supply in ways that large, costly transbasin diversions cannot. Such diversions also create risks of over-development of Colorado's compact entitlements, cause significant environmental impacts, and threaten West Slope agriculture and communities. These projects generate great controversy and conflict, and can result in lengthy, costly permitting processes with uncertain outcomes. Colorado will be better served by the other water supply strategies described above.



4. Laws and policies to facilitate creative water management should be encouraged.

Current law and policy may be an obstacle to many of the water supply strategies discussed above. Transaction costs and risks to existing water rights can be major roadblocks to creative solutions to better meet Colorado's water needs. Colorado should adopt legislation and policy to help encourage rather than discourage creative arrangements for efficient water supply and water sharing. Current legislative efforts to encourage agricultural efficiency and protect instream values (SB 23) or to allow flexible marketing of water generated through changes within agricultural operations (HB 1026) are examples of changes that can help promote creative solutions for better meeting Colorado's future water supply needs.



Trout Unlimited's Gunnison River Basin Comment Overview

In addition to broad statewide policy and principles, Trout Unlimited chapters within the Gunnison basin offered comments on a number of basin-specific needs, project and processes. Our chapters that work within the Gunnison basin are: Grand Valley Anglers, Gunnison Angling Society, and Gunnison Gorge Anglers.

Our comments are provided under a few core topic areas, along with specific comments on proposed or potential goals and measurable outcomes. These core topics are:

- ***Additional important nonconsumptive values and major segments should be recognized at Kannah, Tomichi, Ohio, Quartz and Cebolla Creeks and on Taylor River tributaries below Taylor Park. Their environmental and recreational values are valuable to residents, future residents and visitors to the Gunnison basin.***
- ***Storage projects that can provide multiple benefits, including for environmental and recreational values, should be encouraged under the Basin Implementation Plan. Projects that could fit this model include enlargement of Cunningham Lake, Meridian Lake and McDonough Reservoir #1; sediment removal from Paonia Reservoir; and a reservoir on Long Branch Gulch. It is critical, however, that such projects be operated and coordinated so as to maintain and improve aquatic habitat.***
- ***Efforts to improve agricultural efficiency should also be encouraged – through irrigation water management, irrigation efficiency, and water use accountability. Water quality considerations must be incorporated with these conservation efforts. Such programs should be given equal weight with traditional water development projects.***
- ***Structural improvements to existing facilities are an important part of using water efficiently and can provide multiple benefits. Identified projects that could fit this model include the North Delta Canal, Fire Mountain Canal, Overland Ditch, and Relief Ditch improvement projects and the Uncompahgre Valley WUA canal lining. Similar projects on headwater streams should be encouraged as well.***
- ***Transmountain diversions from the Gunnison basin should be avoided given compact risks and in-basin implications for both consumptive and nonconsumptive needs.***
- ***Monitoring and protection of instream flow rights and the Black Canyon reserved right should be a priority.***
- ***We are concerned by the potential impacts of the proposed Cactus Park Reservoir, and Taylor River Canal projects, and suggest consideration of alternative strategies.***



Trout Unlimited's Gunnison Basin Comments

Additional important nonconsumptive values and major segments should be recognized at Kannah, Tomichi, Ohio, Quartz and Cebolla Creeks and on Taylor River tributaries below Taylor Park. Their environmental and recreational values are valuable to residents, future residents and visitors to the Gunnison basin.

The non-consumptive needs assessment of the Gunnison basin is accurate in identifying many areas with high recreational, environmental, and educational values. However, there are stream reaches that are not included that should be considered. It is unclear why major tributaries like Kannah Creek, Tomichi Creek, Ohio Creek, Quartz Creek, Cebolla Creek, and Taylor River tributaries including Spring Creek didn't make the cut as major segments.

TU suggests that all of these creeks should be considered as major segments. Both Tomichi Creek and Cebolla Creek have four or more attributes. Two attributes were overlooked for Tomichi Creek and its tributaries "riparian wildlife viewing and water fowl hunting" and "significant cold water fishery". Many would question whether Tomichi Creek is a significant cold water fishery, and with good reason - there are times it is not. However, it has great potential to be a consistently productive wild fishery if some of the limiting factors like lack of water available, migration barriers, and riparian degradation were mitigated.

We similarly suggest that Kannah Creek and Taylor River tributaries (downstream of Taylor Park) be listed as significant cold water fisheries. Kannah Creek between Carson Lake and the City Intake are popular and productive fisheries. Taylor River tributaries such as Spring Creek are likewise popular and productive.

Ohio Creek and Quartz Creek are not included in the matrix at all, and they are both important tributaries to the Gunnison above Blue Mesa. In fact, Quartz Creek supports a coldwater fish hatchery used for stocking trout thought out the state.

As demographics change in the Ohio Creek Valley (and to a lesser extent on other upper basin tributaries), many landowners are interested in opportunities to improve and maintain the fishery on their property. These non-consumptive values are very appealing to residents, future residents, and visitors. While there is still a tremendous amount of agricultural use on these segments, balancing those uses with non-consumptive uses will be extremely valuable for property owners, the community, and the State.

Working toward this balance starts by implementing projects and management strategies that improve riparian habitat, promote irrigation efficiency, and maintaining minimum flows. All of these components can be facilitated by the Colorado Water Plan. We hope that the non-consumptive values for these major tributaries to the Gunnison are reflected in the planning process.



Storage projects that can provide multiple benefits, including for environmental and recreational values, should be encouraged under the Basin Implementation Plan. Projects that could fit this model include enlargement of Cunningham Lake, Meridian Lake and McDonough Reservoir #1; sediment removal from Paonia Reservoir; and a reservoir on Long Branch Gulch. It is critical, however, that such projects be operated and coordinated so as to maintain and improve aquatic habitat.

Several project ideas on the current IP&P list for the Gunnison Basin involve expanding storage at existing reservoirs or constructing new reservoirs. TU understands that the ability to store water is currently limited on many tributaries in the basin, and we recognize the benefits reservoirs can provide for present and future water demands, both consumptive and non-consumptive. Frequent dewatering/ low flows leading to reduced water quality is one of the biggest issues affecting fish habitat on these tributaries.

Enlarging existing reservoirs like McDonough Reservoir #1 on the Los Pinos, Meridian Lake in the Slate watershed, and Cunningham Lake on Mill Creek are types of projects TU could support as multi-benefit storage efforts. It is critical that the operational plans for these structures be developed so the timing of both storage and releases are coordinated to maintain and improve aquatic habitat. Similarly, the idea of a new reservoir in Long Branch Gulch is an example of a project that could provide water for consumptive uses as well as maintaining environmental flows during late summer for Tomichi Creek. Sediment removal from Paonia Reservoir would also restore storage and have the potential to benefit multiple values in the North Fork watershed.

While the cost per acre foot for these small storage projects may be a significant limiting factor, the concept of collaboration between multiple stakeholders to benefit both consumptive and non-consumptive needs is worth pursuing.

Partnerships to improve agricultural efficiency should also be encouraged – through irrigation water management, irrigation efficiency, and water use accountability. Water quality considerations must be incorporated with these conservation efforts. Such programs should be given equal weight with traditional water development projects.

A potentially more cost effective alternative to prepare for future water demands while maintaining adequate flows in our streams is to incentivize irrigation water management, irrigation efficiency, and water use accountability. Many of these improvements will individually reduce demands by a couple percent each irrigation season. That “2%” of savings can add up to several hundred acre feet otherwise not available to the stream or other users downstream. For example if efficiency or management strategies enabled Arch Ditch on (Tomichi Creek) users to divert 2% less, 187 acre feet would remain in the stream during the average irrigation season from April to July. 58 of that 187 acre-feet would be during month of July which is often a critical time when water is in short supply. TU has successfully used this



strategy to maintain minimum flows sufficient to support healthy fisheries throughout the West.

We therefore believe that system wide agricultural efficiency projects that reduce diversions as a result of reducing lost water and water delivered to farmed land that is not used by crops is a critical watershed management action that would address the needs of fisheries, help support local recreation based economies and address long term water demands. These efforts will not only improve fisheries but can also lead to more productive farms and vibrant economies.

As part of making water conservation partnerships with agricultural users a priority, it is important to also address water quality needs including programs to address salinity and selenium issues. Water quality improvement, through canal, lateral and farm efficiency improvements, is needed in the Uncompahgre River between Montrose and Delta, to help restore lower Gunnison habitat. These water quality driven projects can also be used to improve delivery system and on farm efficiency which can result in improved management of water diversions, improved flow and storage.

Consideration of project opportunities to improve irrigation efficiency and management, thereby providing additional supply for environmental and other needs and improving water quality, should be weighed equally to more expensive water development projects, like new reservoirs.

Structural improvements to existing facilities are an important part of using water efficiently and can provide multiple benefits. Identified projects that could fit this model include the North Delta Canal, Fire Mountain Canal, Overland Ditch, and Relief Ditch improvement projects and the Uncompahgre Valley WUA canal lining. Similar projects on headwater streams should be encouraged as well.

In the recent past two major diversion modification projects have been completed in on the Gunnison River, both projects funded in part through CWCB via the Gunnison Basin Roundtable, which are examples of how consumptive and non-consumptive concerns can be addressed within the same project. The Relief and Hartland diversion modification projects have been important because they have addressed aging infrastructure, native fish populations, and water management.

Throughout the basin there are other diversions and aging ditch and irrigation related infrastructure that can be improved that can result in improved water management and lead to improved on-farm water application, which can result in improved stream flows. We believe that projects similar to these on smaller tributaries in the headwaters areas are also important for water management and stream health and can improve the health of Colorado River Cutthroat trout. Protection of native trout and other fish species should be a component of water project and a focus of the roundtable and the state as further population decline of these species would place another large strain on water resources. TU encourages the Gunnison Basin Roundtable to seek out these opportunities.



We believe that several projects on the IPP list are good examples of how structural improvements can be made to existing facilities to improve efficiency, which can be used to improve flow and fisheries. Among these are the Fire Mountain Canal, Overland Ditch, Uncompahgre Valley Water Users Canal, and Relief Ditch improvement projects which have the potential of improving control of diverted water and reduce delivery losses. These types of improvements also stand to improve fisheries by improving habitat, reducing barriers, reducing fish lost to canal entrainment and lay the groundwork for on-farm efficiency improvement which is critical to sustaining and improving fisheries and addressing water quality. TU supports these types of projects especially when the non-consumptive component is connected to the project and recommends linking these structural improvements to environmental and recreational needs.

In short, we support multi-benefit projects that address water infrastructure and support non-consumptive needs.

Transmountain diversions from the Gunnison basin should be avoided given compact risks and in-basin implications for both consumptive and nonconsumptive needs.

Information in the planning documents shows a range of opinions on the amount of water remaining for Colorado uses under interstate compacts. Over-estimating the remainder and developing water projects accordingly would have serious implications to all water uses in the future, and we therefore recommend that more conservative estimates be used.

The potential for a transbasin diversion to the Arkansas River basin (and potentially on to the South Platte) remains a major concern. We should support the Arkansas Basin in efforts to implement in-basin conservation and other programs to meet their needs without reliance on a transbasin diversion which would create impacts on Gunnison basin values and greater risks on all existing water uses.

Monitoring and protection of instream flow rights and the Black Canyon reserved right should be a priority.

One area we feel needs to be stressed is the importance of monitoring and protection of Gunnison basin instream flow water rights and the Black Canyon reserved right. The instream flow rights provide a degree of protection to many small streams, but monitoring and enforcement of the rights by the Colorado Water Conservation Board is necessary to actually achieve this protection. Adequate funding and policy direction is needed for the CWCB to accomplish this. Similarly, monitoring and implementation of the Black Canyon reserved right is very important for the gold medal fishery of the Gunnison River.



We are concerned by the potential impacts of the proposed Cactus Park Reservoir and Taylor River Canal projects, and suggest consideration of alternative strategies.

New diversions taking water from the Gunnison River below Almont would have a negative impact on the non-consumptive values associated with highly used section of the Gunnison River (primarily fishing and boating). Possible alternatives to consider for large diversions like the Taylor River Canal are:

1. Planning what time of year these diversions would take place (during spring runoff rather than in July or August)
2. Focusing on water use efficiency for areas that this additional supply is needed.

For example, if these canals are meant to support agriculture or augmentation for domestic use in the Ohio Creek Valley we recommend first looking at what water management strategies within that valley can be implemented to reduce that shortage.

Similarly we are concerned that new storage projects like Cactus Park Reservoir may increase water shortages and further intensify water shortages in the basin and downriver while impacting fisheries for little gain. Cactus Park (and Taylor River Canal) may be listed as IPPs as a result of conditional water rights that have yet been perfected. We strongly suggest that prior to moving forward with these projects that a realistic assessment of the water demand be completed along with consideration for less-damaging (and perhaps more cost-efficient) alternatives such as improvements in efficiency and with existing infrastructure.

Measurable outcomes/goals Suggestions

The Gunnison Basin Roundtable's goal related to non-consumptive needs is: 'Quantify and protect nonconsumptive water uses'. We feel this is a good broad-based goal and provides room to make additions to the non-consumptive need assessment that highlight attributes within the basin. We also applaud the roundtable for creating a robust list of processes to meet this goal. However, we believe that due to the reduced native range of the Colorado River cutthroat in the basin that the Roundtable should aim to improve and extend the current populations, not just preserve them.

Another stated goal is to: 'describe how agricultural water uses benefit nonconsumptive uses'. While there certainly are areas in the basin where return flows late in the season support fisheries, that is not always the case and we strongly suggest the basin investigate this relationship. We suggest modifying this goal to not "describe" benefits that exist in some areas, but rather to promote partnerships through which agricultural water management can benefit environmental and recreational uses. Opportunities and projects along these lines are described more thoroughly previously in these comments.

We also believe these broader goals can be complimented by more site-specific goals for environmental and recreational values with clearly measurable outcomes. We offer these examples for Tomichi and Ohio Creeks, and for the Gunnison above Blue Mesa.



Tomichi and Ohio Creeks.

Improve aquatic habitat, riparian health, and water quality in Tomichi Creek and Ohio Creek within 10 years.

- -Reduce Water temperatures during July and August by 10% at Tomichi Creek USGS Gage above the confluence with Gunnison River.
- -Increase stream bank vegetation and riparian health by 25%.
- -Improve biomass and number of trout per mile by 20%.
- -Reduce irrigation withdraws by 2% through irrigation infrastructure improvements and irrigation water management

Develop collaborative partnership between water users, Upper Gunnison River Conservancy District, NRCS, and conservation organizations and structure sub basin conservation plans for short water years for both Tomichi Creek and Ohio Creek.

- -Identify 5 possible options to improve water availability through storage or efficiency.
- -Develop dry year strategic plan for irrigation scheduling based on crop demand to maintain maximum production for each sub basin.
- -Coordinate enrollment and compensation for 7 cfs to be leased during drought years through CWCB in stream flow temporary (3 in 10) lease program.

Gunnison River Almont to Blue Mesa

- Explore potential for Gold Medal Waters
- Reduce river disturbance by heavy equipment for irrigation diversions maintenance through providing funding and technical assistance to irrigators in this reach
- Work with irrigators in this area on water efficiency improvements and water conservation measures to improve flows and reduce fish entrainment while assisting with investigation on how return flows support coldwater fisheries.



Trout Unlimited's Comments for Colorado's Water Plan

Trout Unlimited's Statewide Colorado Water Plan Principles

Colorado Trout Unlimited's board of directors, which includes representation for 24 local chapters statewide, supported the following core principles as measures that should be reflected in the Colorado Water Plan.

- 1. The Colorado Water Plan must include meaningful efforts to protect and restore healthy rivers and streams and environmental and recreation uses of water.** Just as it is important to address consumptive water supply "gaps", the State must also document and address its environmental and recreational supply gap. Healthy rivers are vital to communities, promote property values, support a strong recreation economy, and contribute to the quality of life that makes Colorado a great place to live. Beyond identifying focus reaches with key values for protection and restoration, the Colorado Water Plan should lay out specific actions to assess and quantify environmental and recreational needs in each basin, timelines for implementation of both the needs assessments and projects to provide for those needs, and resources to complete them. By way of illustration, projects could include restoration of river and wetland habitat, appropriation and acquisition of instream flows to protect, enhance and restore the environment, management of new and existing water supply projects to enhance flows, and collaborations with irrigators to increase efficiency and keep more water in-stream. Colorado's Water Plan should ensure that our State continues to enjoy the many ecological, social, and economic benefits of healthy rivers.
- 2. Basin implementation plans need to help refine the municipal supply "gap" at a local level.** Planning to meet future water demands depends on understanding what the needs are at a local level, so that strategies can be designed to provide water when and where it is actually needed.
- 3. Filling the municipal water supply gap requires a balanced strategy emphasizing efficient use of Colorado's limited water supplies.**
 - a. High water conservation targets should be reflected in basin implementation plans.** Water efficiency is the cheapest, fastest, and least environmentally-damaging way to meet growing municipal water needs in communities across Colorado. As technology improves, and with use of incentives to further promote xeric landscaping, water conservation can go a long way in helping fill Colorado's future water supply gap. State policies should promote such conservation efforts throughout Colorado. Our water resources are limited, and maximizing the efficiency with which they are used must be a cornerstone of statewide water policy.



- b. Water re-use should be an increasing part of meeting future water needs.** Where water can legally be reused to extinction (transbasin water, already converted consumptive use water, non-tributary groundwater), it should be. This is part of maximizing the use of existing (or new) water supplies to meet demands. Necessary infrastructure for treatment and delivery of re-use water should be incentivized with state funding.
- c. Alternative transfer mechanisms and improved agricultural efficiency should be used to meet growing needs while maintaining agriculture and protecting Colorado's environment** Irrigated agriculture provides far-reaching benefits to the economy, environment and quality of life in Colorado. The state should support water sharing arrangements – from water banks to rotational fallowing – that can help meet municipal supply needs and maintain healthy rivers while avoiding the social, economic and environmental impacts associated with traditional “buy and dry” transfers. The focus should be on temporary transfers, not permanent fallowing of irrigated ground. State support could include funding support as well as legal and policy changes to reduce the burdens and risks associated with such nontraditional water sharing agreements. The state should also support infrastructure improvements to benefit agricultural operations, healthy flows, recreation, and local communities.
- d. Better integration of water supply systems can help increase efficient use of Colorado's water.** Collaborative efforts among water suppliers can help use strengths in one supply system to bolster weaknesses in another, and vice versa – which will help increase the overall efficiency and reliability with which water can be provided for present and future demands. Partnerships such as those envisioned with the WISE project between Denver Water and south-metro-area suppliers can help responsibly meet water needs more efficiently and effectively than a “go-it-alone” approach.
- e. Structural projects to bolster water supply should avoid harmful effects to rivers and local communities.** Where structural projects are needed to firm water supplies, provide storage for managing water yielded from other strategies like reuse, and otherwise assist in meeting future needs, they should be designed to avoid adverse impacts to environmental and community values. Given the importance of healthy rivers to Colorado's economy and quality of life, it is critical that future projects protect, and where possible enhance, non-consumptive water values. Projects that can provide multiple benefits should be encouraged. Partnerships – such as those under the Colorado River Cooperative Agreement and associated agreements – can be a key part of managing water supplies to provide those multiple benefits.
- f. A new large trans-basin diversion from the Colorado River is not the answer for meeting Front Range needs.** Local, focused projects (such as conservation, re-use, temporary agricultural transfers, and small-scale storage) can be tailored to address community-specific “gaps” in future supply in ways that large, costly transbasin diversions cannot. Such diversions also create risks of over-development of Colorado's compact entitlements, cause significant environmental impacts, and threaten West Slope agriculture and communities. These projects generate great controversy and



conflict, and can result in lengthy, costly permitting processes with uncertain outcomes. Colorado will be better served by the other water supply strategies described above.

4. Laws and policies to facilitate creative water management should be encouraged.

Current law and policy may be an obstacle to many of the water supply strategies discussed above. Transaction costs and risks to existing water rights can be major roadblocks to creative solutions to better meet Colorado's water needs. Colorado should adopt legislation and policy to help encourage rather than discourage creative arrangements for efficient water supply and water sharing. Current legislative efforts to encourage agricultural efficiency and protect instream values (SB 23) or to allow flexible marketing of water generated through changes within agricultural operations (HB 1026) are examples of changes that can help promote creative solutions for better meeting Colorado's future water supply needs.



Trout Unlimited's Metro and South Platte River Basin Comment Overview

In addition to broad statewide policy and principles, Trout Unlimited chapters within the South Platte/Metro basin offered comments on a number of basin-specific needs, project and processes. Our in-basin chapters are: Alpine Anglers (Estes Park), Boulder Flycasters, Cherry Creek Anglers (Aurora/Parker), Cutthroat (Littleton), Denver, Evergreen, Rocky Mountain Flycasters (Ft Collins), St Vrain Anglers (Longmont), and West Denver (Golden).

Our comments are provided under a few core themes, accompanied by specific suggestions on both nonconsumptive and consumptive IPPs. These core themes are:

- ***Meeting the basin's environmental and recreational needs is vital for our economy and quality of life must be given real emphasis in the Basin Implementation Plan.***
- ***Key environmental and recreational values should include angling and trout resources, especially Colorado's unique native trout, and publicly accessible river recreation. Coldwater habitat conservation should be identified as a priority and exceptional waters (such as Gold Medal streams) should be given emphasis.***
- ***Measurable outcomes for environmental and recreational values should include maintenance of existing populations, securing adequate flows/habitat for special designation waters (Gold Medal, etc), and maintenance of water quality to sustain designated uses.***
- ***Instream flow protections should be afforded to Colorado streams for maintenance of habitat for trout and other aquatic life. Mechanisms by which conserved water can be put to benefit for instream habitat should be strengthened.***
- ***Areas where significant investments have been made in habitat improvement should be prioritized for protection, so that the value of these investments is not lost. Where ongoing diversions have reduced habitat significantly, and where future water projects reduce flows, habitat restoration should be considered to help modify channels to maximize habitat benefits.***
- ***The impacts of climate change should also be considered in the Basin Implementation Plan.***
- ***In addressing future consumptive use needs, water conservation and efficiency should be encouraged. While downstream impacts of efficiency should be understood and addressed, encouraging upstream waste to meet downstream gaps is not an appropriate strategy. Increasing consideration of water conservation in land use planning should be a priority.***
- ***Watershed health is an important component of planning for our water future, and should build on existing efforts such as those with the Coalition for the Upper South Platte, Coalition for the Poudre River Watershed, and the emerging post-flood recovery coalitions.***

Our more detailed comments follow.



Meeting the basin's environmental and recreational needs is vital for our economy and quality of life must be given real emphasis in the Basin Implementation Plan.

We feel that conservation of environmental and recreational resources in the South Platte watershed must be considered throughout the Plan. It is rather alarming to note that in the original “needs assessment” documents, the term “environment” or anything related appears only two or three times as a passing reference, as the documents are focused on consumptive water needs.

Unfortunately, this is not the first time we've seen environmental and recreational water uses relegated to a secondary level of consideration. In our experiences with discussions or policy decisions on Colorado water, non-consumptive use is poorly represented - presumably because large private enterprises do not directly benefit from increased river flows. Small commercial outfitters or environmental non-profits with limited resources are sometimes acknowledged but in comparison to the private enterprise needs for agriculture, energy (fracking), or municipal water rights always take priority in any water supply discussions. Non-consumptive use should be looked upon in the same financial contribution to Colorado's economy as these other large players. Tourism and non-consumption are tied together like flowing rivers and our growing population. If we neglect the water need to keep the Colorado environment healthy, we are eliminating the very thing that makes Colorado so attractive to all its residents.

Environmental and recreational water uses are important contributors to our basin's and state's economy in their own right. In water planning, it often goes unrecognized that outdoor activities revolving around water are significant economic drivers. However, the data are clear:

- Over 1.05 million fishing licenses are purchased each year in Colorado. Anglers spend \$648,563,000 annually in Colorado, resulting in a total economic impact (including from related purchases such as travel, hotels, gear, etc.) of nearly \$1.3 billion.
- Similarly, according to a Denver Post article in February, 2011, the economic impact of rafting in Colorado was \$151.4 million in 2011.
- Outdoor recreation as a whole in Colorado generates \$13.2 billion in consumer spending creates 125,000 direct jobs, and \$994 million in state and local tax revenue.
- Beyond these economic impacts, nonconsumptive water uses also provide economic value to the public. A recent Parks and Wildlife survey assessed “willingness to pay” in order to document the consumer surplus (the value from angling received by individuals vs that expenses they actually paid). According to the survey, anglers are willing to pay \$160 a day for fishing – which multiplied by the number of angler days in 2011 (8.4 million) shows an economic value to Coloradans of \$1.3 billion. By way of comparison, recreationists who snowmobile are willing to pay \$68 per trip.



A corollary to what has been discussed above relates to the general economy within the State. In this economic climate, with relatively high unemployment, relatively high gas prices, with people who may be employed working extra hours or holding down two jobs to make ends meet, many people simply don't have the time or the wherewithal to travel long distances to fish and instead must look for opportunities in close proximity to where they live. For those who live along the Front Range, those opportunities will be in the South Platte and Metro basins, areas that are accessible to large urban demographic groups. A diminished water flow in these river basins will contribute to drying up the stream of revenue that would otherwise be directed to these close-to-home recreational pursuits.

In light of the significant economic impact and value provided by angling and other water-dependent recreation, and the value healthy rivers provide to our communities and quality of life on the Front Range, it is important that these "nonconsumptive" uses of water be evaluated and emphasized in the water plan in the same way as any consumptive use.

Key environmental and recreational values should include angling and trout resources, especially Colorado's unique native trout, and publicly accessible river recreation. Coldwater habitat conservation should be identified as a priority and exceptional waters (such as Gold Medal streams) should be given emphasis.

A great deal of emphasis is placed upon trying to protect at-risk species and avoid Endangered Species Act listings. We would suggest adding reference to the importance of conserving environmental and fishery resources for their own sake, not just in relation to ESA. Though endangered species is a critical topic (and should be addressed), we think it is important to address fishery conservation as a goal unto itself as well.

We see no mention of "trout" or "fishing" in the current state water plan draft. Other recreational activities are specifically mentioned; we would like to see fishing elevated as a priority recreational use in the water plan, and the Basin Implementation Plan can help start that process from the bottom up. Given their importance recreationally and as part of the state's natural heritage, we would like to see trout (especially Colorado's native trout) identified as a specific species of basinwide and statewide concern. Exceptional categories of water (e.g., Gold Medal streams, the Wild and Scenic Poudre) should also be specifically recognized and afforded extra notoriety and protection.

The plan should also highlight opportunities for providing access to outdoor water-related recreation. Access to recreational opportunities protects the economy, businesses, communities, and people who depend on the ability to recreate outside. Enhancing access to these opportunities, and maintaining the quality of these opportunities so that they are not diminished by future water uses, should be flagged as an important goal.



Much of this circles back to a simple goal: to conserve coldwater habitat. We would like to see conservation of coldwater fishery habitat addressed consistently and thoroughly throughout the Plan. Almost all of Colorado's water begins as coldwater habitat (streams that maintain temperatures of 70 degrees Fahrenheit or less for most of the year). Most coldwater habitats in Colorado are located at higher elevations or are spring fed by cold ground water, and/or tailwaters below dams. Dissolved oxygen levels are usually higher than in warmer streams. The combination of cold temperatures and high oxygen levels, make many of these waters suitable habitat for trout and other special aquatic life.

A number of factors work together to make a coldwater stream either suited or not suited as trout habitat. Aquatic ecosystems are like terrestrial ecosystems in that they must provide food, shelter, and other life requisites for the species living there. A limiting factor may restrict the number or species of fish found in a stream. Oftentimes limiting factors for trout in coldwater streams are food production, shelter, and/or spawning habitat. If a water body supports trout in Colorado, its characteristics as healthy coldwater habitat should be maintained/conserved. Any diversions, construction, and/or uses of coldwater habitat in Colorado should take into consideration aquatic habitat in relation to the life requisites of trout. In particular, the Basin Implementation Plan should not recommend project diversions when stream temperatures reach or exceed state water quality standards to protect coldwater aquatic life.

Measurable outcomes for environmental and recreational values should include maintenance of existing populations, securing adequate flows/habitat for special designation waters (Gold Medal, etc), and maintenance of water quality to sustain designated uses.

In this basin and in light of the anticipated growth and current environmental pressures, simply maintaining populations is a credible goal for most waters. Basin wide goals should include securing adequate flows and improving and extending habitat in currently designated priority waters including wild and scenic/gold medal/outstanding waters. In addition assuring water quality sufficient to support designated uses basin wide should be a clearly defined goal.

Top-level measurable outcomes of those goals can be determined by, among other metrics, (1) water quality measurements conducted routinely by the major municipal water suppliers, USGS, and other water quality monitors; and (2) annual in-stream population surveys of trout by Colorado Parks and Wildlife (CPW) fish biologists. Of course, project-level measurable outcomes will be specific to each project.

Instream flow protections should be afforded to Colorado streams for maintenance of habitat for trout and other aquatic life. Mechanisms by which conserved water can be put to benefit for instream habitat should be strengthened.

Dedicated in-stream flows are needed for stream function and for trout. Inadequate stream flows impact fish, wildlife, and riparian ecosystems, often damaging watershed health. If the



decision on establishing minimum stream flows for healthy trout were up to us, the future would be clear. Colorado Parks and Wildlife would be tasked with establishing minimum flows by stream reach for every stream containing trout habitat or recoverable habitat. These flows would then be legally protected by priority water right. Given that state law and policy is much more limited, we nonetheless recommend a systematic effort to secure new junior water rights for instream flows in order to protect all priority attributes for those streams that do not yet have such instream flow water rights.

For priority reaches in which instream flows are not consistently satisfied, the plan should establish a framework for encouraging additional purchasing and leasing of instream flows. Funding for the CWCB program of instream flow leasing and acquisition should be enhanced. We suggest that tools also be provided to make it easier for entities beyond the Colorado Water Conservation Board (and the Federal Government in the case of reserved rights) to dedicate water for instream flows; currently, legal limitations and high transaction costs can be a real deterrent to such acquisition and donation efforts.

Given the sensitivity of transbasin water uses, we have heard significant talk about ensuring that – before new interbasin transfers move forward – that the end users should have in place and funded a meaningful efficiency and conservation plan. We certainly agree with this philosophy, but would also encourage creative thinking about using conservation to reduce existing transbasin diversions when possible. Why not encourage at least some water conserved to be left in its basin of origin rather than be transferred across the Divide? Some Front Range municipalities and agricultural interest have more water than they can consume in many years. Most usually, the excess water is sold off in leases to other east slope consumptive users. Why not allow communities, ditch companies and others who conserve or have excess supply the ability to consider leaving that bounty in the originating basin for lease to west slope parties? We strongly encourage changes in policy and if needed legislation to remove obstacles to a transbasin water user leaving water in the originating basin as a purposeful use.

Areas where significant investments have been made in habitat improvement should be prioritized for protection, so that the value of these investments is not lost. Where ongoing diversions have reduced habitat significantly, and where future water projects reduce flows, habitat restoration should be considered to help modify channels to maximize habitat benefits.

Trout Unlimited's chapters in this basin have a long history of stream restorations. These were a concerted effort by a dedicated group of Colorado citizens to improve fish habitat and cold water ecosystems and were done in conjunction and with support from Colorado Parks and Wildlife and many other community partners. The projects have had an impact on the amount and quality of Colorado's water supply. Actions under the Basin Implementation Plan must not undo or adversely affect these projects. Completed habitat projects include:



- Middle Fork South Platte at Buffalo Peaks Ranch
- South Platte River in Elevenmile Canyon (Trees for Trout)
- Tarryall Creek (Trees for Trout)
- South Platte River in Cheesman Canyon
- South Platte River near the Carson Nature Center
- Clear Creek on the “Golden Mile” above the whitewater park
- Clear Creek near Mayhem Gulch
- Middle Boulder Creek at Rogers Park
- Lower South Boulder Creek, east of US 93
- Upper South Boulder Creek, east of the Moffat Tunnel
- Big Thompson River below Olympus Dam
- North Fork Cache la Poudre at Eagles Nest

We believe that these existing, completed, projects (and similar efforts undertaken by others – such as CPW’s work on the South Fork South Platte) should be given priority for habitat and in-stream flow considerations. We strongly recommend that such stream restoration work should not be adversely impacted by other proposed and contemplated projects that could effectively undo the hard work done to-date. A goal to “maintain high quality habitat on all stretches of water where habitat improvement projects have previously been completed” would be appropriate, manageable in scope, and recognize that nobody wants to undo valued volunteer- and community- driven projects.

We also recognize that, even with robust efforts at instream flow protection and restoration, many streams will function in the future with a significantly altered hydrology. A likely future scenario for many waterways will be one of diminished quantities of water flowing within stream channels that were “built” by nature to carry larger flows. The results of this scenario in many cases will be unstable channels and poor trout habitat. It is true that some dams have improved downstream conditions for trout in terms of water quantity, water temperature, and trout food supply. However, the point still stands that water projects that result in low flow outcomes should include, as part of project mitigation, the cost of sizing and shaping downstream channels to efficiently carry diminished flows while still providing quality habitat.

The concept is simply to match the channel bed and banks with the flow and sediment supply that come from the watershed. The result is a channel within a channel; a smaller and more stable stream built to carry channel-forming flows inside a larger existing channel that can carry flood flows. This is a concept commonly applied to trout habitat improvement projects in the South Platte Basin. Examples include some of the TU/partner projects referenced above such as on the South Platte River and Tarryall Creek, on Clear Creek west of Golden, and on the south metro reach of the urban South Platte. Similar work has also taken place on Fourmile Creek in South Park, on the Wigwam Ranch above Deckers, and on one reach of the North Fork of Clear Creek downstream of the Black Hawk water treatment plant.



The impacts of climate change should also be considered in the Basin Implementation Plan.

In the documents we reviewed, climate change and its impacts on Colorado water were only referenced in passing. In Part Two of South Platte Basin Roundtable Consumptive Needs Assessment it was referenced three times. In the Metro and South Platte Consumptive IPP's and Summary it was also only referenced three times. In neither of the documents was there any significant treatment of the topic. For example in the Metro and South Platte Consumptive IPP's and Summary, Section 8.1.5, it states: "The following are the assertions that could portend a potential climate change: ...- Large variations in precipitation patterns." This statement and section does not discuss that climate change will result in the high potential for less precipitation but implies that the variation in precipitation will be a net increase. A more thorough and thoughtful treatment of the potential impacts of climate change on both supply and demand management should be incorporated.

In addressing future consumptive use needs, water conservation and efficiency should be encouraged. While downstream impacts of efficiency should be understood and addressed, encouraging upstream waste to meet downstream gaps is not an appropriate strategy. Increasing consideration of water conservation in land use planning should be a priority.

The SWSI report offers an overview of all the competing demands and concepts for future strategies, and offers guiding concepts for developing solutions. Simultaneous implementation of conservation, Identified Processes and Projects (IPPs), west to east slope transfers, water storage, and agricultural transfers are all identified to meet future needs. Our greatest concern is the perceived lack of ability to address the gap without heavy reliance on either or both major new transbasin water transfers and agricultural transfers which have significant negative impact on habitat. While M&I efforts are already significant for many communities, we are concerned that the potential for future conservation gains is underemphasized. The report also indicates that conservation and reuse means less water in the river for agriculture and the downstream environment. While the ripple effects of implementing more conservation and reuse should be understood and addressed, we are concerned about the implication that we should rely on upstream waste to address downstream gaps.

We are concerned that past plans on which this Basin Implementation Plan builds pay scant attention to conservation practices. At times it seems that conservation is almost a dirty word among planners in that it connotes sacrifice on the part of the consumer. While water conservation plans may be written for many communities, it is vital that there be monitoring and reporting for implementation and, consequently, results from these plans. We agree that water conservation practices alone will not resolve our water challenges, but they can play a very substantial role and a more concerted emphasis should be placed on these measures.



Beyond what water utilities themselves can encourage, we think more emphasis should be placed on municipalities developing and enforcing ordinances and standards that would improve overall efficiency of water use (ensuring installation of low-water use fixtures, encouraging more xeriscaping and/or conversely restricted the extent of turf in new developments, etc.) Without addressing the land use connection with water efficiency, Colorado will not achieve the conservation gains it will need to fill its future water supply gap.

Watershed health is an important component of planning for our water future, and should build on existing efforts such as those with the Coalition for the Upper South Platte, Coalition for the Poudre River Watershed, and the emerging post-flood recovery coalitions.

In this basin, we anticipate that much of the focus on the topic of watershed health will be on flood and fire mitigation. Fortunately, there are numerous ongoing and emerging efforts on which the Basin Implementation Plan can build. The Coalition for the Upper South Platte has coordinated a number of projects for watershed health and wildfire response/mitigation and should be consulted. Similarly, the new Coalition for the Poudre River Watershed (see IPP comments below) is addressing similar efforts in the Poudre basin. Denver Water has partnerships in place for forest health efforts in the vicinity of its reservoirs. We are aware that there was a wildfire mitigation/response plan for the St Vrain watershed completed 1-2 years ago that likely has maintained much of its relevance. All of these existing efforts provide a foundation for addressing watershed health.

We would also note that nearly all the nonconsumptive projects mentioned below are multi-purpose in the sense that more than the prime listed purpose is, or will be, accomplished. Habitat improvement projects affect not only the creatures that live in the streams, but also the terrestrial wildlife that depends on healthy riparian and nearby upland habitats. Restoring rivers to a more healthy condition makes them more attractive to people using them for a wide range of recreational activities, thus making this a desirable place to visit or live, and bringing in more businesses, resulting in improved economic health of our communities. It also helps maintain higher quality water for use downstream. Overall, healthy rivers and watersheds are a foundation for healthy communities and this should be emphasized in the basin plan.

Comments on environmental/recreational IPPs.

While the basin summary documents include a good summary of methodology and specific IPPs, many of which have been completed, it seems that planned projects are a relatively short list. As the Basin Implementation Plan is developed (and modified in future years), **there should be an ongoing process for updating the list of completed projects with new ones to tackle the next set of priority values.**



One major set of environmental and recreational project needs has not yet been addressed in these plans: post-flood restoration. **Improving habitat as part of flood recovery efforts should have a high priority** and emphasis given the extraordinary impacts on communities, habitat, and recreation that resulted from the September 2013 floods along the northern Front Range. “Stream Teams” for different basins are already developing plans for restoration and these efforts should be reflected in the basin implementation plan. Specific TU projects that are also in development and illustrate the kinds of efforts that will be needed include repair of flood damage to previous habitat restoration features in lower South Boulder Creek and Eldorado State Park, and replacement of lost diversion structures with river-friendly designs on the South St Vrain. Continued outreach and education with landowners, water users, and other partners on the importance and opportunity for conducting flood recovery in ways that preserve river health, bank stability, etc. will remain an important goal.

There are other plans in place that address stream function and fish habitat and which should be incorporated into the basin planning process. For instance, **TU supports the High Peaks to Headwaters Fisheries and Watershed plan developed by the US Forest Service for the Clear Creek watershed**. This plan also can be a template for planning other sub-watersheds. We believe that the management actions approved in this plan are solutions that can be applied elsewhere within the South Platte Basin to address stream function and fish habitat issues. The actions in the plan are: stream restoration, riparian/wetland/floodplain habitat improvement, road obliteration, and culvert replacement. To this list we would add mine site cleanup along with management of the sand, gravel and chemicals applied to highways.

We offer additional comments on some existing IPPs for the basin:

Poudre – change water operations to improve flows. TU’s Rocky Mountain Flycasters chapter is a participant in the “Poudre Runs Through It” study/action work group that is actively seeking operational ways to make the Poudre a healthier river while also sustaining it as a hard-working river. We strongly support efforts to get the maximum benefit possible for the Poudre through collaboration and joint operations.

Poudre – obtain minimum instream flows of 25 cfs in Fort Collins. TU supports the efforts of CPW and Ft Collins to establish minimum flows that will better enable natural instream and riparian ecological processes to take place.

Poudre – diversion structure modifications for fish passage. TU supported the recent removal of the Josh Ames diversion structure, as well as the planned removal of Coy Ditch diversion and modifications of the Lake Ditch diversion.

Poudre headwaters – native cutthroat trout recovery. TU has actively supported this project for many years, and it should be a high priority for the basin given its potential for providing a



true stronghold for native greenback cutthroat trout. Unfortunately, the project has been delayed by administrative hurdles and litigation. Emphasizing the importance of this project in the Basin Implementation Plan may help in generating much-needed forward momentum.

Big Thompson – channel restoration at the Narrows. The Big Thompson channel was drastically reshaped during the September 2013 flood. This limited project should be canceled and instead incorporated into a larger, new project for post-flood restoration work throughout the corridor.

South Platte – urban reach restoration. TU has been a partner with the Greenway Foundation and others on this important project, and continuing the planned work throughout the urban reach should remain a high priority in the Basin Implementation Plan.

Further, we would suggest addition of the following IPPs that are currently moving forward.

Poudre basin – High Park wildfire recovery. The Coalition for the Poudre River Watershed, of which our Rocky Mountain Flycasters chapter is a member, is coordinating the High Park post-fire ecological restoration of the Poudre watershed, addressing the quality of water delivered for M&I use by a population of nearly 300,000 people. Additionally projects are being formulated to mitigate damages from future wildfires in the basin.

Post-2013 Flood Restoration (Big Thompson, St Vrain, Boulder Creek, etc.). TU has been an active member of the recently-established restoration coalitions that are working on post-flood ecological restoration of river corridors. Our St Vrain Anglers chapter is partnering with two local ditch companies on the South St Vrain to assist them in installing new structures with more river-friendly design. Overall, recovery from the 2013 floods will be an extensive and long-term initiative, but of critical importance for the South Platte basin.

Jenny Creek restoration. This is a Boulder Flycasters chapter restoration project taking place on a section of creek east of Jenny Lake and Yankee Doodle Lake, being conducted in coordination with the US Forest Service and scheduled to begin this year.

Comments on consumptive use IPPs.

There is something of a presumption that IPPs should move forward and receive state support; **however it is important to do so only when the projects are responsibly designed and can be effectively mitigated in terms of their impacts on the environment and communities.** Projects need to take consideration of physical habitat that provides places for feeding, hiding, resting, and spawning for aquatic life. The net results from projects should not be to further decline already limited aquatic habitats.



Additionally, effort should be put toward exploring opportunities where the goals of a consumptive IPP may overlap with opportunities for environmental and recreational goals. For example, if a project involves the creation of diversion dams, conservation interests may be involved to raise money, volunteer, etc. to help make such diversions as fish-friendly as possible. Elements of projects (such as “environmental pools” to help with downstream releases at Chatfield and Gross Reservoirs) and their operation may also be able to achieve environmental and recreational purposes while meeting consumptive needs as well. **Securing multiple benefits from IPPs should be a priority.**

If we are to remain Colorful Colorado, we must find ways to conserve, protect, and restore our water resources without creating harm to existing users. **Collaborative efforts with agricultural water users, like the Super Ditch Program and other creative solutions, need to be advanced through this state water plan effort.**

We offer additional comments on some existing consumptive-use IPPs for the basin:

Halligan & Seaman Reservoir Expansions. These projects remain in the NEPA process so that we can only comment based on previously issued information, which may be modified based on an upcoming Supplemental EIS. Halligan and Seaman enlargements, while separate projects, are operationally closely related in terms of their environmental impacts. Each would inundate portions of the North Fork of the Poudre resulting in losses of stream habitat of about 2 miles in length at each expanded reservoir. However, with both reservoirs expanded, the increased storage capacity will enable water flow managers to maintain flows that will support increased populations of both cold and warm water fish species in a more-than 13-mile long reach of the North Fork Poudre between the two reservoirs – a reach that is now almost dry during irrigation season. The possibility of such flow management and its resultant ecological impacts was demonstrated by a multi-variable computer-based model developed during the Shared Vision Planning experiment which included participation by many stakeholders. If operated in a coordinated manner, the expanded reservoirs could provide more benefits to the ecology of the North Fork than the comparatively lesser detrimental effects of stream inundations.

Northern Integrated Supply Project (NISP). As with Halligan & Seaman, this project remains in NEPA and our comments are limited to information previously issued, which may be modified based on the upcoming supplemental EIS. In contrast to the beneficial environmental effects already identified for joint operation of Halligan and Seaman, NISP lacks such positive environmental impacts. Instead, as presently proposed in the original NEPA documentation, it would create environmental harm through more than 40 miles of the high-plains reach of the Poudre River.

The larger one of two proposed reservoirs under NISP, Glade, would be located in a valley occupied by US Highway 287, and between hogback geologic formations located north of Ted’s



Place. Glade would be an off-stream reservoir, and water stored in it would be diverted out of the Poudre River near Ted's Place and pumped up to Glade when those water rights are available. Historically, those rights have come into play in only about four years out of ten, and they occur during years of abundant snowpack in the Poudre watershed. The detrimental environmental effect of this scenario is that diverting water into Glade would prevent an equal amount of water from flowing downstream where the Poudre transitions from a designated Wild and Scenic River through the canyon to a high-plains ecologic system whose health is highly dependent on periodic over-bank high flows submerging the river's flood plain in order for that ecologic system to function. The threatened ecologic system is the riverine and riparian forests, meadows, parklands, farmlands and urban areas along the Poudre from La Porte through Fort Collins, Windsor, and Greeley to a confluence with the South Platte River. It is a highly-valued recreation area for a population of about 300,000 people, and an environmental learning venue for thousands of schoolchildren. The United States Congress has formally recognized these values by designating this reach of the Poudre as the only National Heritage Area west of the Mississippi River. The guide book to this National Heritage Area describes it as, *"An area rich in natural, cultural, scenic, and recreational resources. Its significance to the nation and to the daily lives of water users throughout the west is profound."*

While there may be potential to provide some offsetting environmental benefits through collaborative operation with NISP (between its two reservoirs, and with other Poudre basin facilities), the existing NEPA application has only speculative and tentative suggestions for mitigating these adverse environmental effects.

Chatfield Reallocation. TU has publicly supported the Chatfield Reallocation project in light of the measures included in its state-approved mitigation plan; specifically, the project mitigation includes investment in habitat restoration both upstream and downstream of the reservoir on the South Platte River. Most significantly, the project will provide storage for an environmental pool (currently at 1600 acre-feet) that can be managed to help address the existing problem of low and even zero-flow days downstream of Chatfield. The incorporation of the environmental pool is a good model for providing multiple – including environmental/recreational – benefits from a proposed IPP.

Moffat Firming Project. Denver Water's Moffat Firming Project will further divert flows from the Fraser and Williams Fork watersheds (primarily) and store them in an enlarged Gross Reservoir. This will create significant impacts both from flow reductions and from inundation of portions of South Boulder Creek. To address these impacts, Denver has proposed a Mitigation and Enhancement Coordination Plan for the Fraser basin that we believe responsibly addresses impacts in that area – through providing water to be released to address key flow needs; through use of operational flexibility in the diversion system to maximize stream health; through funds available for habitat improvement; and most importantly through a collaborative program for monitoring and adaptive management called "Learning by Doing" that will engage



multiple partners in an ongoing initiative for maintaining stream health into the future. Denver has also agreed to provide a portion of its new storage in Gross Reservoir that can be used by other in-basin entities (notably Boulder and Lafayette) to reoperate some of their water rights so as to improve seasonal low-flow conditions in South Boulder Creek. These features of the Moffat project are good examples for managing IPPs to address impacts and provide multiple benefits.

Windy Gap Firming Project. Northern Water's Windy Gap Firming Project will draw additional flows from the Colorado River at Granby and store them in a new Chimney Hollow Reservoir near Carter Lake. To address project impacts on the Colorado River, Northern has – through agreements associated with its 1041 permit for the project – made significant commitments to address the health of the Colorado River headwaters. These include operational agreements to address flushing flow and stream temperature considerations, funding to support habitat improvement on the Colorado River to help offset impacts and enhance river habitat, and funding and participation for an effort to evaluate and (if appropriate and feasible) build a bypass or similar mechanism to reconnect the Colorado River for sediment transfer, fish passage, etc. at Windy Gap. As with Moffat, these features of the Windy Gap Firming Project are models for addressing IPP impacts and providing multiple benefits including for environmental and recreational values.



Cover Sheet for Input Document, #75

The document listed 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: May 2, 2014

Input provided by: Craig Mackey on behalf of over 100 Colorado businesses and Protect the Flows

Method of submission: Email to Kate McIntire, forwarded to cowaterplan@state.co.us

Summary of Input: A letter from Protect the Flows, signed by over 100 Colorado businesses regarding input on Colorado's Water Plan.

Documents Submitted for Review: Comments in attached letter

Staff Response: CWCB appreciates the engagement level of the commenters, whose comments are in line with the efforts of Colorado's Water Plan. Related subsections of Colorado's Water Plan are now available online at www.coloradowaterplan.com for public review.



May 2014

The Honorable John Hickenlooper
136 State Capitol
Denver, CO 80203-1792

Dear Governor Hickenlooper,

As Colorado business owners, we applaud your vision in calling for a Colorado Water Plan.

Small business is the backbone of local economies in cities and towns across our state. As owners of small, snow-and river-dependent businesses, we know firsthand that water is the lifeblood of the people that live and work in Colorado. From Denver to Durango, Steamboat to Sterling, water is key in the growth and success of business. It anchors the assets that make Colorado unique and provides our competitive advantage—our quality of life, recreation, and tourism economies.

In calling for the Water Plan, your Executive Order prioritized these assets, stating:

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.*

As business owners we support these values that drive business development and growth and quality of life for our communities and families. We believe Colorado can meet growing demands for water while protecting our resources. As you have clearly stated, this challenge can best be met through a commitment to conservation and investments in using water more efficiently.

In developing the Colorado Water Plan, we support:

1) Keeping Colorado's rivers healthy and flowing: To leverage Colorado's assets and drive small business, 21st-century economics demand that the health and viability of our rivers as natural and economic resources be prioritized in water policy and management.

2) **A call for municipal conservation:** With Colorado’s population projected to double by 2050, Colorado should commit to the top target set by the State Water Supply Initiative—reducing per capita municipal water use by 35 percent by 2050.

3) **Investment in agricultural water delivery and reuse:** Better than 70 percent of water diverted from our rivers feeds our farms and ranches. Modernizing infrastructure for delivery, irrigation and reuse promotes this foundational industry and Colorado tradition.

4) **Modernizing and maximizing existing storage systems:** Demand exceeds supply on basins across the state. Drought and the specter of future diversions challenge our rivers, in-stream flows, wildlife and recreation. Investment in efficient use of our current reservoirs and delivery systems should take precedent over new diversions.

Colorado is blessed with natural beauty and resources – including our snow, rivers and streams. Protecting these resources ensures a sustainable economic future. We thank you for your vision on Colorado water and commit to working with you in the development and implementation of a strategy reinforcing our belief that it is, indeed, a privilege to live and work in Colorado.

CC: Colorado Water Conservation Board, James Eklund, Mike King

Sincerely,

Aspen Ski Company
Auden Schendler, VP of Sustainability
Aspen

The Mountain Angler LTD.
Jackson Streit, Owner
Breckenridge

Taster's Pizza
Stacy Forster, Owner
Aspen

Colorado Kayak Supply
Earl Richmond, Owner
Buena Vista

Crazy Mountain Brewing Company
Marisa Selvy, Owner
Avon

River Runners/Adrift Adventures
Jon Donaldson, Owner
Buena Vista

Taylor Creek Flyshop
Kirk Webb, Owner
Basalt

Wilderness Aware Rafting
Joe Greiner, Owner
Buena Vista

A-LAN Computing Solutions, Inc.
Alan Mishell, President
Boulder

8 Mile Bar and Grill
Andy Neinas, Owner
Canon City

Performance Tours
Kevin Foley, Owner
Breckenridge

Echo Canyon Campgrounds
Andy Neinas, Owner
Canon City

Rumors Coffee and Tea House
Arvin Ramgoolam, Owner
Crested Butte

Echo Canyon River Expeditions
Andy Neinas, Owner
Canon City

Teocalli Tamale
Davin Sjoberg, Owner
Crested Butte

Crane Associates, LLC
Jeff Crane, Owner
Carbondale

Townie Books
Arvin Ramgoolam, Owner
Crested Butte

Forster Insurance Agency
Stacy Forster, Owner
Carbondale

Yoga for the Peaceful
Monica Mesa, Owner
Crested Butte

Ragged Mountain Sports
Jenny Hamilton, Owner
Carbondale

Denver Tent
Jeff Greene, General Manager
Denver

Academy South Mini Storage
Joan Wills, Owner
Colorado Springs

Fishpond LLC
John Le Coq, Owner
Denver

Angler's Covey Inc.
David Leinweber, President
Colorado Springs

Lilypond LLC
John Le Coq, Owner
Denver

Osprey Packs, Inc.
Gareth Martins, Director of Marketing
Cortez

Restore Skin & Body, Inc
Vanessa Cameron, Owner
Denver

Cottonwood Tees
Angela Booth, Owner
Crested Butte

Silver Bullet Water Treatment
Bob Hanfling, Executive Chairman
Denver

Mountain Oven Bakery
Christopher Sullivan, Owner
Crested Butte

Dolores Chamber of Commerce
Stuart Hanold, Executive Director
Dolores

Dolores River Boating Advocates
Lee-Ann Hill, Program Coordinator
Dolores

A Wanderlust Adventure
Patrick Legel, Owner
Fort Collins

4 Corners Whitewater
Matt Wilson, Partner
Durango

Triptiva Corporation
David Costlow, Owner
Fort Collins

Peregrine River Outfitters
Thomas Klema, Owner
Durango

MoHenry's Trout Shop
Mitch Kirwan, Owner
Fraser

Performance Video Inc
Kent Ford, Owner
Durango

KODI Rafting
Campy Campton, Owner
Frisco

Salt River Rafting
James Wilkes, Owner
Durango

Blue River Anglers
Zeke Hersh, Owner
Frisco

Surf the San Juans LLC
Anna Fischer, Owner
Durango

The Mountains USA- vacation service
Paul Connelly, Owner
Frisco

The Leland House & Rochester Hotel
Kirk Komick, Owner
Durango

Colorado Adventure Center
Steven Bryner, Online Marketing/Sales
Glenwood Springs

4 Corners Riversports
Tony Miely, Owner
Durango

Faceology Skin Care Studio
Maya Kurtz, Owner
Glenwood Springs

Mountain Waters Rafting
James Wilkes, Owner
Durango

Sazzi Footwear
Brian Walton
Glenwood Springs

Rampart Pools
Rob Wheeler, Operations Manager
Englewood

Blue Sky Adventures
Patrick Drake, Owner
Glenwood Springs

Grand Mountain Dreams Realty
Robin Herbert, Realtor
Granby

Gunnison Real Estate & Rentals, L.L.C.
Kelly McKinnis, Owner
Gunnison

Amy Nuernberg Marketing Design Web
Amy Nuernberg, Owner
Grand Junction

Gunnylove
Mallory Logan, Owner
Gunnison

Desert Sun Vineyards
Doug Hovde, Owner
Grand Junction

Metamorphosis Salon and Spa
Priscilla Swanson, Owner
Gunnison

Farmer's Insurance
Shawn Lowe
Grand Junction

Ridgeway Accounting & Consulting Services LLC
Kathy Ridgeway, Owner
Gunnison

Loki Outerwear
Dirk & Seth Anderson, Co-Owners
Grand Junction

Roshambo
Delaney Keating, Owner
Gunnison

Adventure Bound, Inc.
Tom Kleinschnitz, Owner
Grand Junction

Sleightholm Workshop Design+Build
Matt Sleightholm, Owner
Gunnison

Uka Nala SUP
Steve Andersen
Grand Junction

The Bean Coffeehouse & Eatery
Nancy Lapello, Owner
Gunnison

RE/Max Peak to Peak
Brenda Freeman, Broker Associate
Grand Lake

Thread Studio Design
Julie Wills, Owner
Gunnison

Gr8Memories LLC
Darren Wheeler, Owner
Gunnison

Confluence Casting
Jack Bombardier, Owner
Gypsum

Gunnison Country Chamber of Commerce
Tammy Scott, Executive Director
Gunnison

Mile Hi Rafting and ATV Tours
Suzen Raymond, CEO
Idaho Springs

Rep Your Water
Garrison Doctor, Owner
Lafayette

Rapid Creek Cycles
Rondo Buecheler, Owner
Palisade

Minturn Anglers
Logan Johnson, Owner
Minturn

Talbott Farms
Bruce Talbott, Owner
Palisade

Scott Fly Rod Company
Jim Bartschi, President
Montrose

TerraVisionMedia
Jay Canode, Owner
Paonia

Bill Dvorak Rafting, Kayak and Fishing Expeditions
Bill and Jaci Dvorak, Owners
Nathrop

RIGS Adventure CO
Tim Patterson, Owner
Ridgway

Box Canyon Lodge and Hot Springs
Karen Avery, Owner
Ouray

Small World Adventures
Torri Stokes, General Manager
Salida

Avant Farm and Vineyard
Neil and Diane Guard, Owners
Palisade

Tim's Tools
Roy Reed, Manager
Silt

Garfield Estate Vineyard
Allison Barratt, Owner
Palisade

Backdoor Sports Ltd.
Peter Van De Carr, Owner
Steamboat Springs

High Country Orchards and Vineyards
Theresa High, Owner
Palisade

Boomerang Sports Exchange
Lisa Vander Graaff
Steamboat Springs

JC Photography
Jim Cox, Owner
Palisade

Five Oceans, Inc. Sales and Marketing
Scott Harkins, President
Steamboat Springs

Mesa Park Vineyards
Brooke Webb, Owner
Palisade

Recreation Publishing Inc./Paddling Life
Eugene Buchanan, President
Steamboat Springs

Sweetwood Cattle Company
Rebecca Fix, Operations Director
Steamboat Springs

Gingery and Associates
Kathy Gingery, Broker
Tabernash

Further Adventures/Boot Doctors
Bob Gleason, Owner
Telluride

Mountain Massage and Day Spa
Jolana Vankova, Owner
Telluride

Coldwell Banker Mountain Properties
Dennis Saffel, Broker/Owner
Winter Park

Home James Transportation
Roger Hedlund, President
Winter Park

Yampa Valley Anglers
Ryan Herbert, Owner
Yampa