

# **PUBLIC INPUT**

## **ITEM 1**



# DELTA COUNTY, COLORADO

## BOARD OF COUNTY COMMISSIONERS

COUNTY COURTHOUSE • 501 PALMER STREET • SUITE 227 • DELTA • COLORADO • 81416-1796

PHONE: (970) 874-2100 FAX: (970) 874-2114

[www.deltacounty.com](http://www.deltacounty.com)

Dist. 1: C. Douglas Atchley - Dist. 2: C. Bruce Hovde - Dist. 3: J. Mark Roeber

April 3, 2015

Colorado Water Conservation Board  
1313 Sherman Street, Room 718  
Denver, CO 80203

RECEIVED  
APR 16 2015  
Colorado Water  
Conservation Board

RE: Colorado Water Plan Comments

Delta Board of County Commissioners supports the Gunnison Basin Water Implementation Plan and the priority goal of protecting existing water uses in the basin and that any proposed future transmountain diversions is limited. Delta County strongly supports the Roundtable's statement that existing uses include agricultural, municipal, domestic, industrial, recreational and environmental and that any new projects must be evaluated in terms of potential impacts on the mix of uses. Existing uses must be kept in their current balance to support our local economy and assist Delta County to plan for additional demand on limited water. Any new projects to address additional storage must prioritize the existing uses in the current ratios.

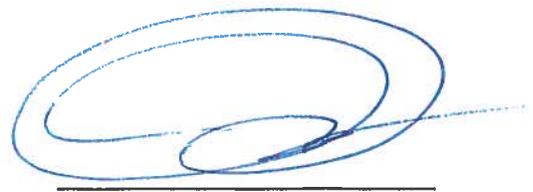
Delta County is home to over 100 separate ditch companies and the sustained use of agricultural water is the primary economic driver in our county. This provides the base to support the additional goals of the Gunnison Basin Roundtable Implementation Plan in that agricultural water supplies should be improved to address anticipated future shortages, promote the use of hydropower, identify and address municipal and industrial water shortages, and to encourage the beneficial relationships between agricultural and recreational users. In addition, Delta County strongly supports the modernization of water infrastructure as existing conveyance systems are of similar age and repair costs will soon exceed local funding capacity.

Delta County looks forward to working with the state of Colorado and the Gunnison Basin Roundtable to educate all sectors of the economy on the importance of attaining the goals detailed in the Colorado Water Plan.

Sincerely,  
Delta Board of County Commissioners

  
J. Mark Roeber, Chairman

  
C. Douglas Atchley, Vice Chairman

  
C. Bruce Hovde, Commissioner

**PUBLIC INPUT**

**ITEM 2**



July 6, 2015

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

RE: Input to the "Colorado Water Plan" from Colorado's business community

The Colorado business community recognizes that water is vital to the very existence of our life in Colorado. It is connected to every economic resource in this state including our homes, our businesses and our recreation, making it a resource of critical importance to our entire community.

The first draft of the State Water Plan was completed in 2014 and focuses on a vibrant economy, a strong environment and efficient and effective water infrastructure that promotes smart land use. As the plan gets finalized, we want to take this unique opportunity to reflect the business community's thoughts on the way our state prioritizes, utilizes and sustains this important natural resource and provide input on measurable goals that should be included in the plan.

Enclosed are our thoughts and suggestions regarding the goals and strategies we believe should be included in the Colorado Water Plan to ensure sufficient water supply by 2050.

We've kept our recommendations in this document fairly general. We would happy to provide more concrete examples and detail if that would be helpful.

Thank you in advance for your consideration of our comments and most importantly for setting the important goal of completing and adhering to a comprehensive water plan.

Sincerely,

Handwritten signature of Mizraim Cordero.

Mizraim Cordero  
Director  
Colorado Competitive Council

Handwritten signature of Kelly Brough.

Kelly Brough  
Chief Executive Officer  
Denver Metro Chamber

Handwritten signature of Tom Clark.

Tom Clark  
Chief Executive Officer  
Metro Denver EDC

# Colorado's Water Plan: Recommended Strategies from the Business Community

## THE ISSUE

Water is vital to the very existence of our life in Colorado. It is connected to every economic resource in this state, including our homes, our businesses and our recreation, making it one of our most important resources.

The first draft of the State Water Plan was completed in 2014 and focuses on a vibrant economy, a strong environment and efficient and effective water infrastructure that promotes smart land use. As the plan gets finalized, we have a unique opportunity to shape the way our state prioritizes, utilizes and sustains this important natural resource and provide input on measurable goals that should be included in the plan.

## WHAT IS COLORADO WATER LAW?

Early in Colorado's history, our water laws took a broad approach toward settlers' rights. Eventually these laws were challenged in front of the Colorado Supreme Court, which ruled that water could be diverted from a stream and that ditches could be built across both public and private land. These founding principles became Colorado's Prior Appropriation Doctrine. This doctrine is often explained in its simplest terms: First in time, first in right. Whoever puts the first claim on an amount of water has the right to use it, regardless of the original location of the water.

## WHY COLORADO NEEDS A PLAN: CRITICAL WATER ISSUES WE FACE TODAY

The following are key factors to consider in how we allocate water for our future:

1. Approximately two-thirds of the water originating in Colorado flows out of the state in order to satisfy Colorado's compacts with other states.
2. Colorado is closely tied to six other western states in a reliance on Colorado River water.
3. Colorado's population is expected to double by 2050, with most of the growth falling along the Front Range corridor.
4. More than 80 percent of the state's water use is attributable to agricultural production.
5. Colorado's municipal and industrial sectors use about 7 percent of water in the state but account for the majority of the state's total economy and serve as a driving force behind our economic growth.
6. Colorado's Prior Appropriation Doctrine has served the state well for more than a century. It has adapted to allow for protection of the environment and recreation, and it will need to adapt to allow for efficiencies such as rainwater capture. The doctrine – and its adaptability – should remain in place.
7. Colorado needs more water storage to meet future demands. We do not have enough storage to take advantage of existing rights to capture and save water for future years.

## THE CHALLENGE

After meeting with business leaders across the state, we developed a set of goals and principles we believe should be included in the State Water Plan as it gets finalized.

### Conservation goals:

1. The plan should set a goal of **15 percent reduction in water consumption by 2050** to be achieved primarily through enhanced water use efficiency in every sector. The goal should give basins flexibility to allow for year-to-year progress or average growth.
2. Water providers should continue to be **required to submit water conservation plans** to the CWCB and include local efficiency metrics.
3. Water providers should be encouraged to **provide a reliable source of water that is resilient to climate change** and the effects of demand hardening.



# Colorado's Water Plan: Recommended Strategies from the Business Community

**Water storage:** The biggest challenge to ensuring Colorado has the water storage it needs is the inability to navigate the project permitting process in an efficient and timely manner at the state and federal levels.

**Water storage goals:**

1. **Water storage** options, both structural and underground, must be included in the plan.
2. The state should identify the costs, benefits and permitting challenges of all of the water infrastructure and storage projects listed as Identified Project and Processes (IPPs) in the 2010 Statewide Water Supply Initiative (SWSI), with the goal of having **all IPPs completed by 2050**.
3. State agencies should participate as **cooperating agencies in federal regulatory processes** from the onset of project scoping.
4. When a water project is set for federal review, the state should **designate a single lead agency to provide a coordinated set of comments** representing all state agencies and provide one position on mitigation and enhancement.
5. The state should **provide input between issuance of a draft Environmental Impact Statement (EIS) and the Final EIS**.

**Water Reuse** for domestic, agricultural, industrial, recreational and other beneficial purposes should be encouraged. This can improve water quality by reducing discharge of treated effluent to surface waters and reduce demand on drinking water sources.

**Water reuse goals:**

1. The state should adapt policies to move toward **reusing 100 percent of water** obtained through trans-mountain diversions from the Western Slope to the Front Range.
2. Policy should encourage **reuse in graywater, recycled water and industrial wastewater** in a manner that protects public health and the environment.
3. An all-of-the-above, **comprehensive view of water planning, regulations and management** should be adopted by the state, removing barriers for green infrastructure including rainwater capture, storm water and black water.

## NEXT STEPS

It is undeniable that Colorado offers great agricultural tradition, unique cities, recreational opportunities and a healthy environment. Clean, reliable water is central to our way of life. The draft plan represents significant leadership and progress, and has incorporated objectives and measurable outcomes that we believe are key to solving Colorado's water challenges.

The Chamber, C3 and all of our partners challenge the governor's office, the Colorado Water Conversation Board, policy makers and water leaders across Colorado on behalf of the state's business community to establish a vision that completes the plan. To achieve the goals behind this collective vision for Colorado's water it will take all of us.

Learn more at [coloradocompetes.org/water](http://coloradocompetes.org/water) or [denverchamber.org](http://denverchamber.org).



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**ITEM 6**



Upper Yampa Water  
Conservancy District

July 21, 2015

Mr. James Eklund  
Director  
Colorado Water Conservation Board  
1313 Sherman St., Room 718  
Denver, CO 80203

**RE: Colorado Water Plan/IBCC Framework**

Dear Mr. Eklund:

Developments, subsequent to the HB1177, and more recently the "Colorado Water Plan" have brought welcome transparency and cooperation addressing management of the Colorado River as a whole. This letter specifically addresses negotiations occurring at the Inter Basin Compact Committee (IBCC) and particularly the recent "Conceptual Framework" document. This letter is intended to reiterate the UYWCD's current positions

HB1177 created Roundtables from the various river basins within Colorado and the IBCC members are selected from those Roundtables. The IBCC was developed to facilitate negotiations between basins within Colorado. The Board of the Upper Yampa Water Conservancy District (UYWCD) has over time taken positions that are pertinent to these negotiations. The Colorado River compacts were developed to avoid a prior appropriation scheme that could have limited the amount of water available to citizens of Colorado due to faster development of downstream States. The Upper Yampa Board's consistent position has been that our river basin be included in the benefits of Colorado's portion of water under the Colorado River Compacts. In other words, no basin in the State should be disproportionately impacted by any management of Colorado River with respect to the compliance with Colorado River Compact(s).

The Board exhibited its concern with respect to future development of water resources within the basin with a resolution regarding the proposal from the Northern Water Conservancy District.

*18 JANUARY 2007 minutes,*

*Director Sharp proposed the following resolution:*

*RESOLUTION: Resolved that The Upper Yampa Water Conservancy District will oppose the Northern Colorado Water Conservancy District's proposed Yampa Diversion project unless our concerns are resolved. Our concerns include at least the following: The protection of the future water development capability in the upper Yampa River basin, the protection of the stability of the Programmatic Biological Opinion and ROD for the Yampa Plan on which many water users in the basin rely, the protection of recreational usage of the River through Dinosaur National Monument, and the protection of water quality of the River.*

The resolution passed as worded.

## Upper Yampa Water Conservancy District



A “white paper” was adopted by the Yampa/White/Green Basin Roundtable that reiterates the need for protecting native flows for use within the basin and thus not disproportionately impacting the basins of the Yampa and White Rivers. The White paper states

*“A distinction must be made between existing Y/W/G in-basin consumptive uses (including projected PBO depletions), new development for use within the West Slope Basins as a whole, and “New Supply” to the Eastern Slope. Arrangements other than the prior appropriation doctrine were the core of the State of Colorado’s arguments at the time of the original Colorado River Compact in 1922, between the Upper Basin States in 1948, and should now be included in the Colorado Water Plan between river basins... Further, it will assume that the depletion allotments (previously negotiated in the Yampa Basin and under discussion in the White River) as part of an endangered fish recovery program’s programmatic biological opinion (PBO), are available for development of in-basin BIP projects.”*

The UYWCD board supported these ideas through the following motion.

*March 19, 2014*

*Director Brenner moved to support the White Paper as presented, with a strong cover letter expressing the District’s great reservations on any major trans-basin water diversions particularly due to low water levels in Lake Powell. Also the need for equitable apportionment to be adopted for the Yampa River, and the acknowledgment of the value of the contribution of the Yampa River to the State’s compact obligations. Director Monger seconded the motion, which was unanimously approved.*

These statements underlie the Board’s current position. An equitable apportionment of the native flow within the Yampa, negotiated through the IBCC process, is urged by the UYWCD Board. Management of the Colorado River by avoidance of a formal compact administration, or federal intervention due to low reservoir levels in Lakes Mead and Powell, is an admirable goal of the conceptual agreement. The avoidance program, now called the “collaborative program”, must be voluntary and compensated. Further that program must be developed with an understanding of an apportionment of native flows in the Yampa River Basin for future in-basin development and firm protection of existing absolute Yampa River water rights from compact curtailment. Without such an agreement, the UYWCD Board asserts that the apportionment of the Yampa River by Article XIII of the 1948 Upper Colorado River Compact which precludes curtailment of existing absolute Yampa River rights.

In conclusion, the UYWCD remains very skeptical of the intent of the seven points of the Conceptual Framework. The document contains numerous contradictions and lacks clarity on what mechanisms could be used to control any final agreement. For example, principle #1 states, “*East Slope water providers are not looking for firm yield from a new<sup>2</sup> TMD and the project proponent would accept hydrologic risk for that project*”, however in the following description a TMD is described as, “*administered under Colorado’s priority system, diverting water only when it is physically and legally available in priority*”. Principle #3 states, “*In order to manage when a new TMD would be able to divert, triggers are needed.*” These triggers are not in statute, have no legal standing, and are conceptual at best. Therefore, the UYWCD cannot agree to use the seven points of the Conceptual Framework as any more than discussion points in future negotiations.

# Upper Yampa Water Conservancy District



Sincerely,

  
John Redmond  
Board of Directors Chairman  
Upper Yampa Water Conservancy District  
P.O. Box 775529  
Steamboat Springs, CO 80477  
970-871-1035

CC:

John Stulp, IBCC Chairman; Colorado Water Conservation Board  
Jon Hill, Chairperson; Yampa/White Basin Roundtable, Colorado Water Conservation Board  
Colorado Water Plan, Colorado Water Conservation Board

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**ITEM 9**

We offer the following revisions for your consideration:

- Section 6.3.1

Municipal ~~and Special Water District~~ Water Conservation and Efficiency

6.3.1 Municipal ~~and Special Water District~~ Water Conservation

Governor John Hickenlooper stated that “Every conversation about water should start with conservation.” [Municipalities, Special Water District, and other Water water](#) providers ~~and municipalities~~ have progressed in water conservation over the last decade, as was seen in Chapter 5. Building on those efforts, future actions will define which direction Colorado takes to close the supply and demand gap.

- Section 9.2. Economics and Funding

**The State of Colorado will continue to work within Colorado’s local structure.**

Local governments have considerable authority in making water development and management decisions. Colorado’s counties, [special districts](#), and municipalities exercise a broad range of powers to address the needs of their constituents that are explicitly conferred to them by state law. The local control structure within Colorado is discussed in more detail in Section 2.3 of Colorado’s Water Plan. The range of local authorities includes broadly authorizing counties and municipalities to balance environmental protection with the need to provide for planned and orderly land use. Counties and municipalities have various tools at their disposal, including: ~~creating special districts~~, requiring Master Plans for development, assessing impact fees to offset new development on existing infrastructure, and 1041 powers, which allow local governments to regulate construction or extensions of major new water and sewage treatment systems. The State of Colorado will work collaboratively with local governments within this existing framework and Colorado’s Water Plan is a valuable tool for both levels of government in that work.

# **PUBLIC INPUT**

## **ITEM 14**



August 19, 2015

Dear Director Eklund,

Thank you for taking the time over the last year to listen to the concerns of Coloradans across the state. As you enter this final month of public comments on the State Water Plan, we respectfully submit the attached 700 individual comments from concerned citizens around the state.

At Clean Water Action, we are committed to ensuring that all Americans have access to fishable, swimmable, drinkable water. In Colorado, that means we need to plan carefully for the future of Colorado's water supply as well as being diligent about water quality in our state. We know that water is the lifeblood of our state, and that every Coloradan depends on water for their lives, their livelihoods, and their quality of life.

At Clean Water Action, strongly encourage a plan that prioritizes urban, suburban, and rural water conservation. We want a plan that proactively works to keep our rivers healthy and flowing; and we are opposed to projects that expand or create new transmountain diversions. The enclosed letters reflect the same sentiment.

Again, thank you for your time and effort in this important plan.

Sincerely,

A handwritten signature in blue ink, appearing to read "Sara Lu", is written over a light blue horizontal line.

Sara Lu

RECEIVED

AUG 19 2015

Colorado Water  
Conservation Board

The following quotes represent the best of the letters we have collected.

"We are raising our kids here, and are trying to instill in them a value for ecological awareness in today's world. Water is one of our state's most precious resources! Please create a plan that will keep Colorado's rivers healthy. Let's avoid expanding or building transmountain diversion projects." – Sara Weyley, Denver

"I am deeply concerned with the allocation and use of the surface waters in this state. Many other states in the Western US are currently experiencing record droughts that could have been avoided through proper planning and foresight...I urge you to seek a plan that maintains environmental flows in these rivers, as well as providing water for residents and agriculture." – Michael Gieschen, Ft. Collins

"We wanted to give our kids a better quality of life, and I think you would agree that water is our most important surface resource. Keeping our CO rivers healthy is essential in maintaining a #1 quality of life that we have been blessed with!" – Dr. Sherri Beck, Evergreen

"We need to protect our rivers, streams, and watersheds. I've spent countless hours in the backcountry. I can't imagine a world where people don't have the privilege to experience the beauty of Colorado." – Michael Richard, Golden

"Whether we are walking along a beautiful creek or tubing down a river, we are always doing something water related, and it is important to keep it that way. It's not only important to plan for our future, but also for the future of our kids." – Makayla Wolfe and Charlotte Ingold, Lyons

"I am an economist who has a different perspective on this issue. Water and its protection are one of the best investments we as a society can make. Any dollar or hour you spend on its protection NOW will have a manifold payoff in the future." – Andrew Friedson, PhD, Denver

"I have been hiking and camping in Colorado for my entire life...I urge that the Colorado Water plan have a huge emphasis on water conservation in such a way that individuals never have to fear losing their water or paying large bills while massive industries use and pollute water sources. I also feel strongly that farmers should be rewarded, not punished for modernizing their practices and saving water." – Alex Goetz, Lakewood

"I am dismayed by the drawdown of the Colorado River basin at a rate that cannot be sustained. Quite simply, the state needs a more aggressive plan for managing this all important resource." – Terry Loewenberg, Erie

"As you consider options for the State Water Plan, please prioritize conservation and efficiency and avoid any project that would expand or build new transmountain diversion projects. As a mountain resident, I've seen how such diversion projects hurt local communities as well as the animal and plant life that makes our state such a treasure." – Sonya Yeager-Meeks, Bailey

"Keeping Colorado rivers healthy is important to me and my 7-year old son because we value the beauty and benefits of the water sources around us personally, recreationally, and ecologically." – Julie Thomas, Boulder

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**ITEM 19**

August 27, 2015

## Colorado's unanswered water planning questions

Colorado's economic and environmental futures are in serious jeopardy, because of continuing failures to ask and objectively answer the following basic water planning questions:

As the primary headwater state and water source for our nation's arid Southwestern Region, why are Colorado's escalating water shortages, user costs, and farm dry-up rates now among the highest of all western states?

Why is Colorado the only western state that has never formulated and maintained a professional State Water Plan to guide development of its vital interstate water entitlements for current and future generations, as originally directed by Colorado Water Conservation Board's (CWCB) 1937 Legislative Charter?

After twelve years of collaborative water planning with a multi-million dollar Statewide Water Supply Initiative (SWSI), and two years after Governor Hickenlooper's Executive Order to create our state's first Colorado Water Plan, why has CWCB's 410 page Second Draft Colorado Water Plan failed to include recent evaluations of three conventional trans-mountain diversion (TMD) alternatives (*Big Straw, Flaming Gorge, and Yampa*) for Colorado's state-wide water needs?

Why is CWCB's Second Draft Colorado Water Plan promoting high cost and harmful trans-mountain reuse-to-extinction projects for Front Range growth? *Note: Aurora's Prairie Waters Project, Colorado Springs' Southern Delivery System (SDS), and South Metro Denver's Water Infrastructure Supply Efficiency Project (WISE) will substantially increase Front Range water user costs, escalate dry-up of Eastern Colorado farms and environments, and continue to risk permanent loss of Colorado's vast undeveloped and unused legal share of the Colorado River.*

Why is Colorado the only western state trying to develop and maintain a meaningful State Water Plan with nine Basin Roundtables, manned by local, non-professional volunteers? *Note: Some of these local planners have serious conflicts of interest as major land and water owners/brokers/speculators, as well as advisors for numerous state funded water studies.*

How can Colorado's leaders expect a meaningful, consensus-building, Colorado Water Plan from five Eastern Colorado Roundtables, representing 85% of our state's population and agriculture vs. four Western Colorado Roundtables, representing 15% of Colorado's population and agriculture, 85% of Colorado's total river outflows, and 100% of Colorado's vast unused legal share of the Colorado River? *Note: Colorado's currently undeveloped Colorado River entitlements could support about five million additional people, with today's declining water consumption criteria.*

Why has Colorado's recent 12 year statewide water planning process failed to consider U. S. Bureau of Reclamation's (USBR) extensive Gunnison-Arkansas Project Studies during the 1940s and 50s? *Note: USBR's Gun-Ark Studies would have efficiently exported up to 450,000 acre-feet for vital Eastern Colorado needs, without adversely impacting any senior Gunnison Basin water rights. Upper Gunnison consumptive needs for hay and cattle have declined about 35% since the 1960s.*

Why have Colorado's water planners failed to consider USBR's detailed 1987-1989 evaluations of eighteen cost-effective Upper Gunnison/Aspinall Marketable Pool Trans-mountain Alternatives?

*Note: USBR's currently undeveloped Aspinall Marketable Pool Water Rights and Blue Mesa Reservoir were originally authorized by Colorado Congressman Wayne Aspinall and Congress during the late 1950s to primarily help Colorado develop and beneficially use 300,000 acre-feet of its vulnerable Colorado River Rights from Colorado's largest untapped Gunnison River Basin.*

Why were Colorado Water Resources and Power Development Authority's (CWRPDA) joint Phase 2 Upper Gunnison-Uncompahgre Basin Trans-mountain Water Studies with USBR suddenly cancelled by Colorado's Department of Natural Resources during 1990, without any public explanation? Also, why were Colorado's two highest governor-appointed state water officials suddenly fired on the same day during 1990, without any public explanation?

Why are Colorado's current water planners ignoring a proposed, U. S. Patented, high altitude, multiple river basins, pumped water and energy storage solution in Gunnison National Forest, called Central Colorado Project (CCP)? *Note: CCP's April 2007 White Paper explains how it is uniquely designed to reduce western water and energy costs by multiplying the reliabilities and productivities of limited renewable water and energy resources throughout five major Southwestern river basins (Gunnison, Colorado, South Platte, Arkansas, and Rio Grande), as well as the western power grid.*

Why are Colorado's water planners ignoring CCP's unprecedented recent engineering evaluations (*summary attached*)? Annual net revenues from CCP's 3,000 megawatt Union Park-Taylor Park pumped-energy storage and peaking power operations for prevention of western blackouts will more than cover CCP's regional water solutions costs. CCP's pumped-water storage and gravity deliveries, when and where needed, will multiply productivities of existing reservoirs, delivery systems, and water rights throughout five major Southwestern river basins on both sides of the Divide. *Note: CCP's surplus revenues can also be used for local and regional forest fire and flood control needs. CCP's "oversight" may explain why Colorado's Front Range water managers are retiring early with exorbitant compensation packages.*

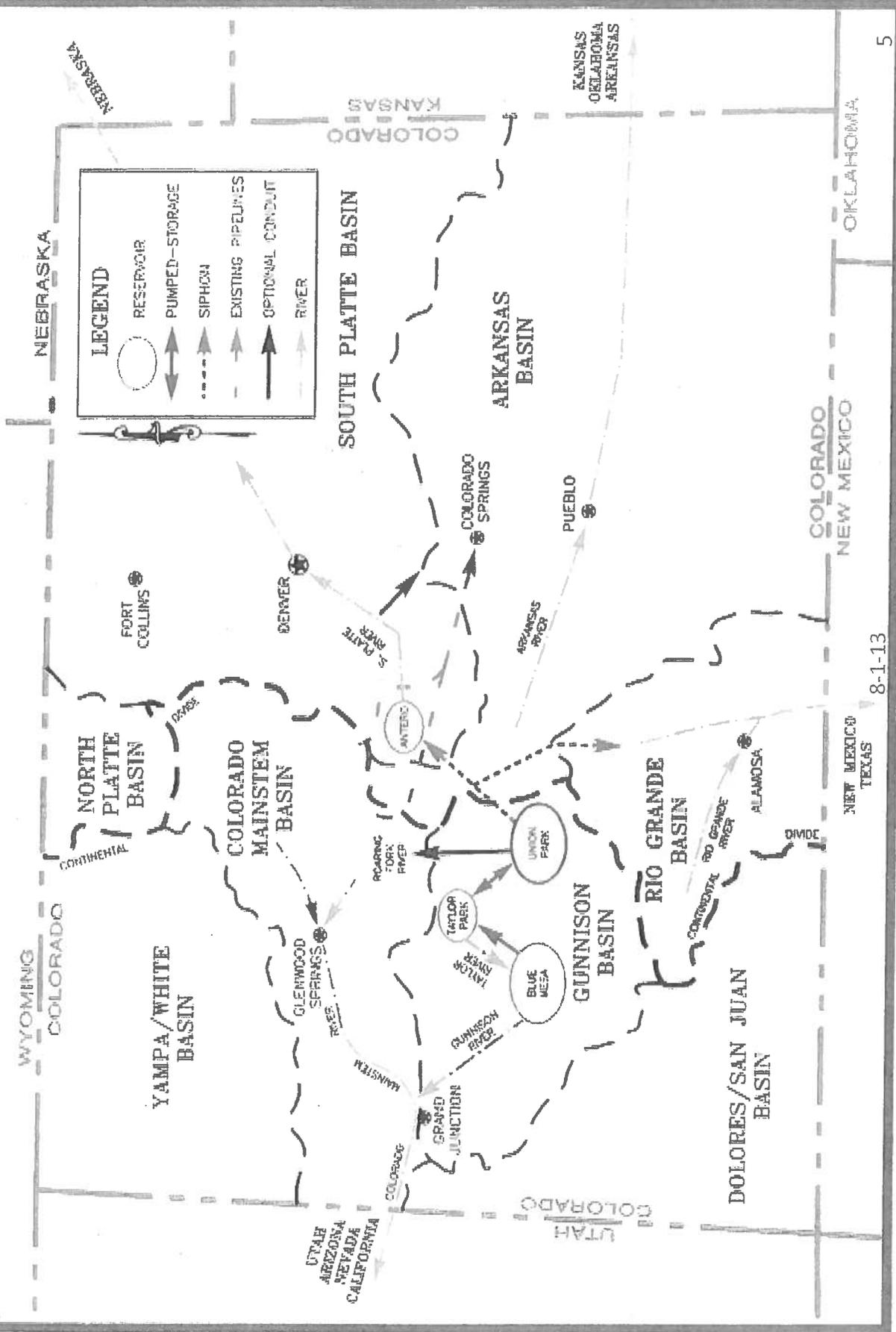
Conclusion: Innovative high altitude multi-basin pumped-water and energy storage projects could help Colorado and all western states reach their renewable energy goals from sporadic wind and solar operations, much sooner than projected. High altitude multiple river basin pumped-storage projects are also near and long-term solutions for highly variable western droughts, growth, recreation, environments, and climate change, throughout the 21<sup>st</sup> Century and beyond. All Colorado, western, and national leaders should immediately call for objective economic and environmental comparisons of innovative high altitude, multi-river, pumped-water and energy storage projects with traditional alternatives, as required by National Environmental Policy Act rules and good science. A State Audit of Colorado's failed water planning practices is also needed.

Allen D. (Dave) Miller, *ABM* B. S. Business, Univ. of Colorado, 1954; M. S. Transportation, Univ. of Tenn., 1963; Active U.S. Air Force Air Mobility Innovator 1954-1974; Retired Air Force Colonel, and active Western water and energy innovator since 1974; 719-481-2003 Fax 719-481-3452; P. O. Box 567, Palmer Lake, CO 80133  
[centralcoloradoproject@comcast.net](mailto:centralcoloradoproject@comcast.net) [www.centralcoloradoproject.us](http://www.centralcoloradoproject.us)  
Encls: CCP Schematic; CCP's Preliminary Regional Water & Energy Benefit-Cost Summary; U.S. Patent Abstract, dated 1-11-11.  
Cc: Gov. Hickenlooper; CO Legislators; local, state, western, and national leaders.



# SCHEMATIC OF CENTRAL COLORADO PROJECT (CCP)

Colorado's optimal State Water Plan



8-1-13

**PRELIMINARY ESTIMATE OF COSTS FOR CONSTRUCTING AND OPERATING THE CENTRAL COLORADO PROJECT (CCP) MULTI-BASIN WATER SUPPLY AND STORAGE SYSTEM - ALL FEATURES INCLUDED, prepared by Horst Uebliacker, P. E., June 6, 2009**  
 Description of Additional Multi-Basin Water Supply Features: Pump Lift from Blue Mesa Reservoir to Taylor Park Reservoir for up to 300,000 acre-feet annually, with gravity delivery conduits from Union Park Reservoir (1.2 million acre-feet) for selective diversions to South Platte, Arkansas, Rio Grande, and Gunnison River Basins, when and where needed for growth, droughts, climate change, recreation and environments. (Note: Regional modeling will determine expected values and revenues from CCP's integrated multi-basin water supply augmentation capabilities.)  
 Power and Energy Requirements Pump Lift Operation Blue Mesa - Taylor Park Reservoir: 126.0 MW (Power); 819,800 MWh (Energy)

Item	Features/Capacity/Size	Jan 09 Costs
1	Blue Mesa Pumping Plant Intake Structure: Q=500cfs	\$ 7,382,250.00
2	Blue Mesa Pumping Plants: 3 EA. @ Q=500 cfs	\$ 195,034,625.50
3	Blue Mesa Pipeline: Q=500 cfs, L=187,000', d=9'	\$ 426,990,900.00
4	Enlargement of Taylor Park Reservoir: 167,500 acre-feet (HWL El. 9,360 feet)	\$ 36,482,582.00
5	Union Park Dam, Reservoir, Waterways, and Access Roads: (see 3,000 MW Union Park PHES Operation)	\$ -
6	Union Park Tunnel: Q=500 cfs, d=11', L=75,400'	\$ 434,276,260.00
7	South Cottonwood Creek Pipeline: Q=500 cfs, d=9', L=15,500'	\$ 18,669,750.00
8	Arkansas Valley Siphon: Q=500 cfs, d=9', L=64,300'	\$ 496,470,280.00
9	Sevenmile Creek Pipeline: Q=500 cfs, d=9', L=4,300'	\$ 4,708,500.00
10	Trout Creek Pass Tunnel: Q=500 cfs, d=11', L=29,900'	\$ 136,463,780.00
11	Sall Creek Drop Structure/Creek Stabilization: Q=500 cfs, L=29,000'	\$ 7,817,600.00
12	Transmission Line: 69KV (900 Amps), L=150,000'	\$ 10,113,836.36
13	Rio Grande Basin Conduit: Q=200 cfs, d=6.5', L=184,694'	\$ 222,095,018.00
14	Roaring Fork Valley Conduit: Q=200 cfs, d=6.5', L=85,061' (Pipeline); Q=400 cfs, d=10', L= 47,045' (Tunnel)	\$ 277,282,288.00
Subtotal		\$ 2,276,676,377.86
Unlisted Items (20%)		\$ 455,116,275.57
Subtotal		\$ 2,730,691,653.43
Engineering, Administrative and Legal Services (25%)		\$ 682,672,913.36
Total Construction Cost		\$ 3,413,364,566.79
Interest During Construction @ 4.196%, n = 5 years		\$ 776,886,552.32
Total Investment		\$ 4,192,261,119.11
Annual Cost		
Amortized Investment 50 yrs. @ 5%		\$ 229,637,830.64
OM (Excluding power and energy costs/revenues) @ 4.98%		\$ 11,435,963.97
Replacement Storage @ Blue Mesa (\$50/acre-ft.)		\$ 15,000,000.00
Annual Power and Energy Costs: \$1,888,750.09/MWh; \$45.77/MWh		\$ 254,629,757.34
Total Annual Cost		\$ 516,703,551.95
Annual Cost per acre-ft. (\$/acre-ft.)		\$ 1,702.36

**PRELIMINARY ESTIMATE OF PROBABLE REVENUES AND CONSTRUCTION COSTS FOR UNION PARK/TAYLOR PARK PUMPED HYDRO ENERGY STORAGE OPERATION, Horst Uebliacker, P. E., June 3, 2009** PAGE 1 OF 2

Power and Capacity		
Head	240.58 Meters	
Limiting Forebay Volume	41,939,000.00 M <sup>3</sup>	
	40,000.00 acre feet	
Res. Surface Area @ El. 10,120 ft.	10,040.00 Acres	
Flow Rate Min	1,164.97 M <sup>3</sup> /S	
Flow Rate Max	1,466.22 M <sup>3</sup> /S	
Storage Time Min	8.00 hours	
Storage Time Max	10.00 hours	
Power Min	2,474.48 MW	
Power Max	3,093.11 MW	
Energy	24,744.85 MWh/day	
** Assumes 15% of forebay volume is unused		
Revenue		
Cycle Value	\$1,104,130	
Annual Revenue	\$401,903,194	
Avoided NG Cost	\$253,325,388	
Avoided CO <sub>2</sub> Emissions	9,713,020.54 tons[metric] of CO <sub>2</sub> avoided/year	
CO <sub>2</sub> value	\$48,565,102.72 value per annual CO <sub>2</sub> reduction	
Avoided SO <sub>2</sub> Emissions	2,165.35 tons[metric] of SO <sub>2</sub> avoided/year	
SO <sub>2</sub> value	\$1,299,209.44 Annual Traded Value	
Total	\$705,092,894.68 Total Annual Value	
Total	\$450,468,296.92 Counted Annual Revenue	
Cost Breakdown-by %		
Environmental Impact Statements and Federal Permits	2%	\$82,398,318
Power Station Structures and Improvements	9%	\$351,058,033
Reservoirs, Dams, Waterways, and Access Roads	22%	\$890,519,820
Reversible Pump Turbines and Valve Governors.	9%	\$370,782,430
Generator Motors and Static Starting Equipment	6%	\$257,494,743
Accessory Electrical Power and Plant Substation Equipment	10%	\$408,970,317
Engineering, Administrative, and Legal Services	14%	\$568,399,842
Subsurface Exploration, Design, and Construction	27%	\$1,090,404,406
OTHER:		\$0
Cost Estimate Based on Needed Facilities and other Costs	TOTAL	\$4,021,037,909

**PRELIMINARY ESTIMATE OF PROBABLE REVENUES AND CONSTRUCTION COSTS FOR UNION PARK/TAYLOR PARK PUMPED HYDRO ENERGY STORAGE OPERATION, Horst Uebliacker, P. E., June 3, 2009 cont'd.** PAGE 2 OF 2

Payback Period and Life Cycle overnight cost	\$4,021,037,910	Cost based on Max Cost of shortest storage duration & fiberized cost entries.
Does CO <sub>2</sub> Have Market Value?	yes or no	CO <sub>2</sub> valued at \$48,565,102.72 at \$5/ton
Annual Rev	\$655,228,583	Revenue based on Min storage time and buying vs. selling data
Payback Time	13 years	
Life Time Net Present Value	\$93,102,943,163	100 year plant lifetime
Interest Rate	6.50%	
O & M	\$20,105,190 per year	
Construction Time	5 years	
Annual % increase in Cost	1.00%	

**Added Note by A. D. Miller, July 2014:** These Preliminary Engineering Evaluations of Central Colorado Project's unprecedented high altitude pumped-water and energy storage capabilities, dated June 2009, were prepared by Horst Uebliacker PE (5-19-39 to 3-3-11) of UEBLACKER ASSOCIATES, Consulting Engineers, Geologists, Constructors, Lakewood, Colorado. Horst was one of the world's most respected geo-technical engineers, and water, energy, and dam experts, before his untimely heart failure and death. In addition to these highly professional benefit-cost evaluations of CCP, Mr. Uebliacker and his international team of experts completed a 125 page Phase 1 Feasibility Level Geological and Geotechnical Investigation for Union Park Dam, dated February 2004. This detailed report concluded: "Geological conditions are favorable for construction of a large roller-compacted concrete (RCC) Dam in Union Canyon. This modern, strategically located dam and reservoir can safely store 1,200,000 acre-feet of high quality multi-year drought protection for Colorado's five major river basins. The dam's total estimated construction cost is \$394,563,000. With its off-setting peaking power revenues, and dam costs of only \$329 per acre-foot, Union Park Dam may become the world's most cost-effective water storage facility." UEBLACKER ASSOCIATES also completed an 83 page Phase 2 Stability Evaluation Report of Union Park Dam under Hydrologic Loading, dated July 2004. This report included a 40 page Hydrologic Evaluation for Union Park Reservoir by Alan J. Leak, WRC Engineering, Denver, Colorado, dated July 14, 2004. The results indicated "the inflow design flood can be safely retained by the proposed 575 ft. high and 2,050 ft. wide roller compacted concrete gravity dam, requiring no emergency spillway".



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)

**FOREIGN PATENT DOCUMENTS**

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

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**

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

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

(65) **Prior Publication Data**

US 2008/0253837 A1 Oct. 16, 2008

**Related U.S. Application Data**

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

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

(57) **ABSTRACT**

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

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.

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

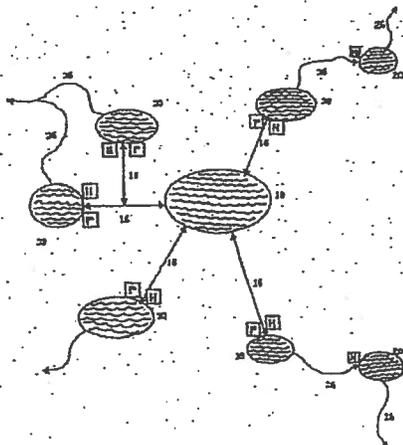
(58) **Field of Classification Search:** 405/36, 405/51-53, 55, 75, 80; 210/747, 170.01  
See application file for complete search history.

(56) **References Cited**

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- 4,117,685 A \* 10/1978 Skaife 405/36
- 4,132,901 A 1/1979 Crausbay

**16 Claims, 4 Drawing Sheets**



**PUBLIC INPUT**

**ITEM 24**

August 31, 2015

James Eklund  
Director, CWCB  
1313 Sherman Street, Room 721  
Denver, Colorado 80203  
[cowaterplan@state.co.us](mailto:cowaterplan@state.co.us)

Dear Mr. Eklund:

South Metro Water Supply Authority (SMWSA) is an organization of 13 water providers that work together to plan, source, and develop water for Douglas and Arapahoe Counties. Collectively, SMWSA members currently serve about 300,000 people (80% of Douglas County and 10% of Arapahoe County) and its customers are expected to grow to over 500,000 by 2050. The South Metro area is home to 7 of Colorado's 9 Fortune 500 companies and it produces 30% of all of Colorado's earned income.

Thank you to you, your staff, and the CWCB Board Members for your collective hard work on Colorado's Water Plan (CWP). SMWSA is an active participant in the plan's development having worked directly on the South Platte/Metro BIP and submitting comments at various stages of the CWP's development including:

- April 21, 2014 - SMWSA input responding to CWCB's Guidance Document for Municipalities
- May 1, 2014 - Comments on the Draft Water Quality Chapter
- June 6, 2014 - Letter on the draft permitting section
- September 8, 2014 - Comments on the Draft Economics and Funding section
- September 9, 2014 - Comments on the Draft Meeting Colorado's Water Gap section
- September 17, 2014 - Letter on precipitation harvesting

Thank you for incorporating many of these comments into the 2nd Draft CWP. We are pleased with many parts of the plan and offer these comments as part of Colorado's robust stakeholder process for developing and improving the CWP.

Since the beginning of the CWP process, SMWSA focused its time and attention in four areas: 1) Agricultural Transfers; 2) Streamlined Water Project Permitting Processes; 3) New and Updated IPPs; and 4) New Supply Projects. Below are comments on the 2nd Draft CWP. However, rather than organizing our comments around these 4 topics, our

comments are organized around the chapters in the July 2015 Second Draft of Colorado's Water Plan. These comments are intended to help shape the Final 2015 CWP to be submitted to the Governor on December 10, 2015.

### **Comments on 2nd DRAFT CWP Overall Tone**

SMWSA believes the overall tone of the CWP should be changed with respect to how irrigated agriculture and irrigated urban landscapes are described. Changes in tone throughout the plan are needed so the reader is not left with the impression that only irrigated agriculture provides benefits and irrigated urban landscapes are a negative and do not provide benefits. The current draft reads as if all things irrigated agriculture are good and all things irrigated urban landscapes are bad and this is not an impression Colorado's Water Plan should portray. Much of the CWP discusses the benefits of irrigated agriculture (maintaining late season flows, providing open space, etc.). There are similar benefits derived from irrigated urban landscapes, tree canopies, parks, and recreational fields. Page 82 in Chapter 5 describes some of the points, however, SMWSA believes that similar points regarding the importance of urban landscape should be made in Chapter 6.

### **Comments on DRAFT Chapter 6 - Water Supply Management for the Future (July 2015)**

Note, several comments are provided on Chapter 10 that may require similar revisions to parts of Chapter 6.

1. Table 6.3.1-1 - SMWSA cautions against trying to develop a statewide conservation goal. It is unlikely that one goal will be appropriate for the entire state. By definition, a statewide goal would need to be achievable statewide. As we have seen in the South Metro area, necessity has driven innovation and aggressive conservation programs. A statewide, one-size-fits-all approach to conservation may stifle the type of innovation that occurs when local entities are able to create solutions that are appropriate for their jurisdiction. A statewide goal that incentivizes all water providers to push the envelope will, by definition, be overly burdensome on some communities who have not made significant progress on conservation in recent years. Conversely, if a statewide conservation goal were more middle of the road, it may provide a disincentive for entities who are already on the leading edge of conservation like SMWSA members to do more. For these reasons, the time and effort the state puts into conservation may be better spent supporting and incentivizing local conservation initiatives rather than developing a statewide conservation goal.
2. p. 164-165 - The second draft of Colorado's Water Plan includes a "conservation stretch goal" that was not included in the previous draft. SMWSA has the following comments on this stretch goal. These comments are made on the language in the 2<sup>nd</sup> draft of CWP. Language changes discussed at the 8/26/15 IBCC meeting, if incorporated, may address some of these comments.
  - a. Why only one stretch goal? The second draft of CWP includes a stretch goal for conservation, but does not include a similar stretch goal for storage or any of the other solutions put forward in the CWP. The CWP purports to be an "all of the above" plan where all solutions (conservation

and reuse, IPPs, alternative ag transfers, and development of new Colorado River supplies) as well as storage are needed. One single solution is not a silver bullet, and Colorado cannot overly rely on one solution. Including a stretch goal for only conservation is not balanced and is counter to the "all of the above" plan. SMWSA does not believe that it is the intent of the CWP to overly rely on conservation as the solution to Colorado's water challenges. SMWSA recommends that complimentary stretch goals be developed for storage (including surface storage and ASR) between now and finalizing the plan in December, and that the final plan include a recommendation for developing stretch goals for the other solutions. Recommended language for a complimentary storage stretch goal is suggested below in Comments on Draft Chapter 10.

- b. Achievability – SMWSA understands that a "stretch goal" is meant to be aspirational and push the envelope. However, the danger of a stretch goal is that it gets used as a precondition for implementing other solutions before it is understood whether the stretch goal is achievable or not. The South Platte/Metro roundtables went through a very detailed conservation analysis in their BIP, breaking down what has been done and what can be done with various parts of conservation. This analysis went well beyond the simplistic low, medium, and high conservation levels articulated in other BIPs. This detailed analysis revealed practical conservation levels the experts implementing municipal conservation in Colorado believe attainable. Please rework the write up of the conservation stretch goal to very clearly differentiate between practical goals and aspirational goals, with the latter not being used to meet the M&I gap until proven achievable. The write up needs to be very clear that the quantified 400,000 acre-feet stretch goal is aspirational, it is unknown if it can be achieved, and it should not be attached as a condition to implementing other solutions. CWP needs to be clear on this point so that others, particularly federal permitting agencies, do not view a potentially unattainable stretch goal as State policy and make it a condition of permitting. This would not only exacerbate an already broken permitting system, but be counter to the intent of the CWP to help create an efficient process for permitting water projects.
- c. Tying a potentially unachievable stretch goal to other "legs of the stool" - As mentioned above, the danger of a stretch goal is that by its definition it may or may not be achievable, yet it gets attached as a condition to the implementation of other solutions. This is most concerning in the case of federal permitting as mentioned above, but is already showing up in the state planning process. The 6/26 draft of the "Conceptual Framework" not only ties future transmountain diversions (TMDs) to this potentially unachievable stretch goal, but ties all new M&I water projects to this goal. SMWSA does not believe this is appropriate. SMWSA recommends that the second paragraph under Principle 6 be removed and additional drafting of the CWP does not tie a potentially unachievable conservation stretch goal to other legs of the stool.

- d. Flexibility for locally appropriate solutions – Many parts of the CWP recognize the importance of local control and articulate the need for flexibility to implement locally appropriate solutions. The conservation stretch goal and associated actions have inconsistent language and needs to be rewritten to maintain flexibility for local water providers to be innovative and creative as they implement locally appropriate solutions. Encouraging integrated water resource planning geared towards implementing water conservation best practices that are locally appropriate is great. Language confusing this with requiring certain high conservation measures as a prerequisite for state support or financing should be removed.
3. SMWSA recommends the following changes be made to the conservation related Actions beginning on p. 171 and that similar changes be made to corresponding sections of Chapter 10.
  - a. Add to Action #1 recognizing the importance of local control that is well articulated in other parts of the CWP. The action could read: "the CWCB will adopt policies stating that in order to obtain a state endorsement and financial assistance for water management projects, water providers must conduct comprehensive integrated water resource planning geared towards implementing water conservation best practices at the high customer participation levels, recognizing the importance of local control and flexibility in selecting and implementing locally appropriate best practices."
  - b. Action #5 - to help address the concerns described above, rewrite this action to read: "Adopt a stretch goal to encourage demand-side innovation that is aspirational and places Colorado at the conservation forefront. Support a stakeholder process that assists local water providers in selecting and implementing locally appropriate conservation best management practices and monitors the achievability of the stretch goal over time."
4. Section 6.3.2 Reuse – SMWSA supports the draft's current focus on regional reuse projects. 10 of our members are participating in the WISE Partnership, a prime example of a collaborative regional reuse project. SMWSA recommends that the current language and Critical Actions encouraging regional reuse be retained, but supplement with language and Critical Actions supporting the continued implementation of local (water provider level) reuse projects. In addition to participating in regional reuse projects such as WISE, many of our members also have local projects to fully reuse their water via exchanges, non-potable reuse for irrigation, or re-diverting return flows. These individual projects/programs are critical to South Metro's efficient use of our water supplies, and regional reuse projects such as WISE should supplement, not replace, these local efforts.
5. Section 6.5 - Framework for Evaluation of Agricultural Transfers - Under Actions on page 241, it states that "a framework for the evaluation of agricultural transfers will be developed from a technical and legal perspective before consideration of requiring such an evaluation." On page 238, under the IBCC recommendations, a

similar concept is written up. However, the IBCC recommendation includes a good description of several initial concerns with this concept. SMWSA reiterates these concerns, particularly the fact that requiring such an evaluation could encroach on private property rights and become a permitting hurdle functioning like an Environmental Impact Statement (EIS). SMWSA does not currently believe that such a framework would be helpful and recommends removing Action #12 on page 241. If the Action is not removed, SMWSA recommends that the Action be revised to say "a framework for an evaluation of agricultural transfers may be developed. In order to help determine if such a framework is appropriate, CWCB will host a stakeholder group to provide input from a technical, legal, and policy perspective. The stakeholder group will include local government, agricultural producers, municipalities, and environmental interests, and will identify and document the pros and cons of developing a framework prior to embarking upon its development."

### **Comments on DRAFT Chapter 8 - Interbasin Projects & Agreements (July 2015)**

1. p. 319 - under "Actions" the second draft CWP states that CWCB will monitor ongoing conceptual framework discussions and consider adopting the conceptual framework. SMWSA recommends that CWCB adopt the conceptual framework with the language tying potentially unachievable conservation levels to all new M&I water projects removed. Language changes discussed at the 8/26/15 IBCC meeting, if incorporated, may address this comment.
2. p. 319 - the "Actions" included in the second draft CWP indicate that CWCB will work to uphold Colorado's compact entitlements and balance development of these entitlements with the risk of a compact deficit in the Colorado River System. SMWSA supports these actions but recommends they be supplemented with one or more "Action" that align state policies to develop and beneficially use these compact entitlements that current and previous generations of Coloradoans fought so hard to protect.

### **Comments on DRAFT Chapter 9 - Alignment of State Resources and Policies (July 2015)**

#### Section 9.1

1. p. 325 and p. 327 - SMWSA recommends adding language to the section "The State of Colorado will continue to uphold Colorado's water entitlements under Colorado's compacts, equitable apportionment decrees, and other interstate agreements." As mentioned above, SMWSA supports this action, but recommends that the State of Colorado not only uphold Colorado's compact entitlements, but align state policies to develop and beneficially use these water entitlements.

#### Section 9.2 Economics and Funding

1. SMWSA supports the additional detail and concepts added to this section since the first draft. SMWSA encourages CWCB to retain this detail in the Final CWP.

2. SMWSA also believes that increasing Colorado's ability to fund important water projects could be one of the most meaningful outcomes of the CWP. In an effort to assist with M&I Projects and to incentivize regional partnership projects, SMWSA recommends that a key priority after finalizing the CWP be the development of a state guarantee repayment fund.

#### Section 9.4 Framework for a More Efficient Permitting Process

1. This section is a great improvement over the section as originally drafted and SMWSA appreciates CWCB's work to improve this important section.
2. SMWSA offers the following comments to further strengthen this section and more robustly achieve the directive of the Executive Order to "streamline the State role in the approval and regulatory process regarding water projects."
3. SMWSA has reviewed and supports the comments Northern Water Conservancy District included on State Permitting Processes in their April 28, 2015 letter. It appears that some but not all of these comments were incorporated in the second draft CWP. SMWSA encourages CWCB to review those comments again and further incorporate them into the Final CWP.
4. SMWSA recommends that the section in general and the Actions in particular be supplemented to include the following:
  - a. The State should commit to supporting project proposals once they have successfully completed the State permitting process.
  - b. In the "Preliminary technical review for state processes" discussion beginning on p. 363, add language that makes it clear that for projects that require NEPA analysis, State agencies should rely on NEPA studies and analyses to make their decisions. This was recommended by the South Platte/Metro BIP and is implied in the current language, but it should be more clearly stated to ensure coordination and involvement of state agencies in NEPA so additional technical analyses that result in added expense and delays are not needed to meet state requirements. SMWSA also recommends that this section describe any changes to State law that are necessary to ensure this consistency.
  - c. SMWSA supports #1 under Actions that calls for working with permitting agencies to determine how to make them more efficient and effective. SMWSA recommends language specifically recommended in the South Platte BIP be added to this Action specifying a "date certain" for this to occur, and including specific goals and timeline for completion of these goals.
  - d. SMWSA encourages CWCB to add a subsection to this section of the CWP including recommendations to improve the Federal Processes. Although Colorado cannot unilaterally implement changes to Federal Processes, it can collaborate with Federal agencies on certain reforms, and Colorado's congressional delegation can work with other states to effect changes. Including this type of a section in the CWP can give the backing and urging to Colorado's agencies and congressional delegation to work on much needed reforms to the Federal process. As recently as August 19, 2015, Sen. Bennett asked for this type of input and detail from Colorado's

water community and the CWP is an ideal place to do this. The South Platte/Metro BIP Section 5.5.11.1 can serve as a starting point for this subsection of the final CWP, and is attached to this letter for consistency.

- e. SMWSA encourages CWCB to add the following specific recommendations from the South Platte/Metro BIP to this section of the final CWP and that item 2 and item 3 below be included in Chapter 10.
  1. Colorado should designate the Colorado Department of Natural Resources (DNR) as Colorado's lead agency for any water project requiring state or local permits, and as Colorado's Cooperating Agency for every water project in Colorado that is required to comply with NEPA and that requires any type of federal permit. This would allow coordination minimizing overlapping reviews or redundant or conflicting comments by involved state agencies. In this role, DNR would have to recognize other state agencies' statutory responsibilities and requirements for permitting. This would also assure Colorado's early, timely, and coordinated input into the NEPA process so the appropriate NEPA studies could be conducted in a coordinated manner, eliminating redundancy, while satisfying the many and varied informational and permitting needs of multiple state and federal agencies.
  2. Consideration should be given to tailoring state statutes and regulations to specifically meet the needs for permitting water supply projects. As an example, current Colorado Department of Public Health and Environment (CDPHE) 401 Certification regulations require an anti-degradation review of proposed water projects. Such reviews are designed for, and are applicable, to permitting of point source discharge, such as wastewater treatment plants. These analyses are difficult to adapt to water supply project evaluations and reviews. This inconsistency requires extensive additional analyses and studies, thus causing additional incurred costs by the project proponent and increased time for state employees to review projects.
  3. Changes should be made to applicable Colorado statutes and regulations in an effort to bring efficiency to the permitting process. Regulations or guidance should specify that state input into any NEPA compliance actions associated with water projects should begin early in the process and continue throughout the process to conclusion.

### **Comments on DRAFT Chapter 10 - Critical Action Plan (July 2015)**

In general, SMWSA believes that Chapter 10 should include specific action items that will make a meaningful difference in implementing the BIPs and CWP. Several parts of the current draft of Chapter 10 are specific and actionable, but many parts are a list of concepts. Several of SMWSA's comments below are intended to help make Chapter 10 more specific and actionable.

SMWSA also believes that the list of Critical Action in Chapter 10 is too long and all encompassing to provide a meaningful road map for what needs to be done over the coming months and years. SMWSA recommends that either the CWCB Board as an entity or through a stakeholder process, prioritize these Critical Actions. SMWSA would be happy to participate in a prioritization process or provide input to CWCB Board members.

As noted in Chapter 10, additional information and context for each of the critical actions is further explained in the referenced section. SMWSA offer the following comments on the table of Critical Actions and anticipates that any changes made to Chapter 10 in response to these comments will also be made in the appropriate referenced section.

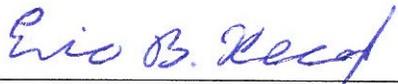
1. Critical Action to Align Funding #2 calls for creating a public private partnership center of excellence. SMWSA supports this action and recommends that partners out side of water, such as those in transportation and other sectors who have been implementing P3s, be included.
2. Critical Action to Align Funding #3 calls for the development of a common grant inquiry process coordinate across agencies for environmental and recreational projects and methods. A common grant inquiry process across agencies would also be of great benefit to M&I and agricultural project proponents. SMWSA recommends developing this process for all types of projects and methods, not just environmental and recreational.
3. Critical Action to Align Funding #6 calls for an investigation of the potential for the CWCB to become a project beneficiary. SMWSA believes that CWCB already has this ability as demonstrated by the Chatfield Reallocation Project and others, and SMWSA recommends reworking this Action to identify specific areas where CWCB becoming a project beneficiary can make a meaningful difference in implementation of the CWP.
4. Critical Actions to Explore New Funding #2 calls for the establishment of a state repayment guarantee fund. SMWSA strongly supports this action, recommends that it be reworded to read "In order to encourage and support regional partnership or multipurpose projects, establish a state repayment guarantee fund," and prioritize this Critical Action as an important immediate next step.
5. Critical Actions to Improve Permitting #1 calls for a series of "lean events." What is a lean event? SMWSA assumes it is similar to a task force made up of permitting agencies and stakeholders. If so, SMWSA recommends this action be made specific and actionable by specifying who would be on this task force, specific goals for the group that build on and do not duplicate previous efforts, and a timeline for providing specific recommendations on how to make permitting more efficient and effective.
6. Critical Actions to Improve Permitting #3 calls for relevant state agencies to actively participate as a cooperating agency in NEPA. SMWSA believes this action should be made more specific by identifying legislative or administrative changes necessary to require that for project that require NEPA analysis, State agencies must participate as a cooperating agency, ensure their issues are included in scoping, and rely on NEPA studies and analyses to make their decisions.

7. Critical Actions to Address Water Quality #1 includes concepts of evaluating water quality impacts from BIP proposed projects, exploring graywater and reuse, and supporting green infrastructure. These appear to be separate issues which SMWSA may or may not support. For example, SMWSA is implementing reuse and continues to explore graywater and additional levels of reuse. However, evaluating water quality impacts from BIP proposed projects is already being done through the 401 certification process. If additional or redundant evaluation is being proposed, SMWSA may have concerns.
8. SMWSA recommends including two Critical Actions (or making the general statements in the current draft more specific) to address direct potable reuse and desalination/brine disposal. Section 7 may need to be revised or supplemented to support these actions. Critical Actions could include:
  - a. Establish a regulatory framework through the CDPHE for direct potable reuse to ensure the technical feasibility and safety of this option for meeting future M&I water needs in Colorado.
  - b. Develop a collaborative program between CWCB and CDPHE to evaluate and promote new and emerging technologies for inland desalination and compare the feasibility, costs, and impacts of different brine/waste disposal methods.
9. Critical Actions to Promote Storage #2 - SMWSA recommends reworking this action from "Assess storage opportunities to determine where existing storage can and should be expanded or rehabilitated to prepare for climate change, improve sharing and use of conserved water, and meet Colorado's compact obligations" to "Assess storage opportunities (both surface storage and ASR) to determine where existing storage can and should be expanded or rehabilitated to help meet Colorado's water gaps."
10. Critical Actions to Promote Storage - If the conservation stretch goal is retained, SMWSA recommends a similar storage stretch goal that reads very similar to Critical Actions to Increase Conservation #4. Add a Critical Action to Promote Storage #5 that reads "Adopt a stretch goal to encourage innovative surface storage and ASR solutions that places Colorado at the water management forefront. Support a stakeholder process that examines options for local water providers to establish storage targets consistent with the stretch goal and the amount of storage possible given past projects and local opportunities."
11. Critical Actions to Increase Conservation #4 - As previously mentioned, SMWSA recommends that the CWP include stretch goals for conservation and storage, or not include stretch goals at all.
12. Critical Actions to Maintain Ag. #2 calls for a stakeholder group to help develop a framework for an evaluation of agricultural transfers. As mentioned above in comment #5 on Chapter 6, SMWSA is concerned that such an evaluation could encroach on private property rights and become a permitting hurdle functioning like an EIS. SMWSA recommends removing this Action. If the Action is not removed, SMWSA recommends that the Action be revised to say "Host a stakeholder group to help determine if a framework for an evaluation of agricultural transfers is appropriate from a technical, legal, and policy perspective."

13. SMWSA recommends the *italicized* phrase be added to the name of section 10.d. *Protect and Develop Compact Entitlements and Manage Risks*. SMWSA further recommends that the title of the table be renamed to be Critical Actions to Protect Compacts, *Develop Entitlements*, and Manage Risks.
14. Critical Actions to Protect Compacts, *Develop Entitlements*, and Manage Risks #1 calls for maintaining the litigation fund. SMWSA fully supports the action and recommends CWCB assess the need to increase the litigation fund rather than simply maintain it.
15. Critical Actions to Protect Compacts, *Develop Entitlements*, and Manage Risks #2 - SMWSA recommends adding the *italicized* phrase to this Action: Continue to comply with Colorado's compact and equitable apportionment decrees and support strategies to proactively manage compact obligations *and develop Colorado's compact entitlements*.
16. Critical Actions to Protect Compacts, *Develop Entitlements*, and Manage Risks #2 - SMWSA recommends adding the *italicized* phrase to this Action: Prioritize the development of a programmatic approach to prevent a Colorado river Compact deficit *while fully developing Colorado's compact entitlements*.

Thank you for your continued work on Colorado's Water Plan. Please let me know if SMWSA can be of assistance or answer any questions.

Sincerely,



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Eric Hecox, Executive Director

Attachment  
South Platte/Metro BIP Section 5.5.11.1  
*Recommendations to Improve the Federal Process*

- The State of Colorado could support a more efficient EIS process for water supply projects. This could include the development of a framework for analysis which can be used to assess future projects. Greater efficiency, cooperation, predictability, and consistency in the permitting process could be achieved by establishing guidelines for what the lead federal agency and all state and federal agencies involved in the process require for approval. Efficiency and predictability of the permitting process could be further enhanced by the State compiling agreed upon ranges, tools, and methodologies for assessing contentious topics such as hydrology modeling, system risk, conservation as a demand reducer, and others.
- To increase the efficiency, consistency, and predictability of the EIS process, the State could work cooperatively with Federal agencies to develop a Programmatic EIS. Colorado's Water Plan could be used as the platform for a Programmatic EIS. Under a Programmatic EIS, no specific projects are approved, but it would create an analysis from which future specific approvals can rely.
- Starting in 2010, the Corps, 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 informal 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 during the alternatives analysis portion of the NEPA process. Though this informal agreement was not publicly documented, an important policy tool going forward could be the use of conservation as a demand reducer in the purpose and need segment of the EIS process. By doing this, water providers will have greater incentive to implement proactive conservation strategies to demonstrate decreased demand and strain on existing resources.
- Scoping for 404 or NEPA permitting must follow federally required processes. Delays often result when new areas of analysis are identified late in the permitting process after scoping has occurred. By ensuring that regulating agency concerns are addressed in their entirety during the scoping process, applicants can more accurately plan for the costs associated with the analysis and avoid delays.
- The State of Colorado could encourage the Corps and EPA Region 8 to revise their 1990 memorandum of agreement (MOA) on sequencing. Their current MOA says that the Corps 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.