DRAFT 9/18/2013~~DRAFT FOR REVIEW BY ROUNDTABLE MEMBERS 7/23/2013~~

Filling the East Slope Municipal Water Supply Gap

A Joint Statement of the South Platte, Arkansas, and Metro Roundtables

I. Purpose of the Statement

- The cities, towns, and rural neighborhoods on the eastern slope of Colorado are projected to be between 150,000 and 500,000 ~~XXX, XXX, and XXX,XXX~~ acre-feet short of water supply by 2050. The faster the growth is and the less success there is with planned supply project, the higher in the range we will be. This east slope municipal supply gap is about 75~~0 [check]~~ percent of the projected statewide municipal supply gap. (Source: SWSI 2010).
- The eastern slope has 80 percent of the state's population and provides 80 percent of the state's economy and tax base and a large portion of the agricultural, recreational, and tourism sectors of the state's economy. Eighty percent of the state's population and job growth will be on the eastern slope. With the regional interdependence of the state's economy, it is critical to Colorado's prosperity that the supply gap be filled throughout the state.
- Cities along the Front Range are national leaders in water conservation and reuse and will continue to make the most efficient use of their supplies.
- These cities are struggling to obtain permits for incremental ~~small~~ expansions to their water systems despite the environmental mitigation and enhancements these projects offer.
- Colorado lacks a plan for meeting east slope municipal water needs. Beyond conservation, reuse, and the modest ~~small~~ expansion projects mentioned above, the default plan for our state is the dry-up of hundreds of thousands of acres of agricultural land on the east slope, some of Colorado's most productive land. We reject this default plan and offer the following alternatives for inclusion into the upcoming Colorado Water Plan.

II. Environmental, Recreational and Agricultural Water Gaps

In addition to the municipal gap, our basins have environmental, recreational, and agricultural water gaps that must also be filled. This joint statement focuses on what our basins learned about the municipal gap by going through the portfolio planning tool exercise that all the basins did for their municipal supply gaps. Through the development of

our basin implementation plans, we will be addressing the environmental, recreational, and agricultural water gaps and providing separate recommendations to the state water plan for filling those gaps.

III. Our Vision for Filling the Municipal Supply Gap

Our vision for meeting the east slope municipal supply gap is statewide support for:

1. Reaching enhanced levels of municipal conservation and reuse.
2. Successful permitting and development of planned municipal supply projects.
3. Continued research, testing, and use of agricultural and municipal water-sharing partnerships.
4. New water storage on the east slope using environmentally beneficial methods.
5. Preserving the ability to develop Colorado's allocation of Colorado River water.
6. When it is needed, development of state water project(s) using Colorado River water for municipal uses on the east and west slopes.

Our basins are committed to making the most of our locally available supplies to meet the municipal gap. This commitment includes reaching enhanced levels of conservation and reuse, developing new east slope storage, and using mutually beneficial water-sharing programs with agriculture. However, maximizing local supplies will require statewide political support, as explained in the next section. This support has to be coupled with equal statewide political support for development of already planned supply projects and a state water project(s) as described in the next section.

IV. Our Recommendations for the Colorado Water Plan

The following are our recommendations to the Colorado Water Plan for meeting the municipal supply gap on the eastern slope. As explained in section II, we will be developing basin implementation plans to address our environmental, recreational, and agricultural supply gaps and providing separate recommendations for those gaps.

A) Municipal Conservation

- Front Range water providers are national leaders in conservation and are committed to aggressively increasing efficiencies in the future. Utilities encourage conservation through

water rate designs, education, watering schedules, and rebate programs, as well as water waste rules. Enacting ordinances and legislation to require more efficient plumbing fixtures, appliances and landscaping — the next major steps in water conservation —requires unity in political will beyond the authority of water providers. The recently unsuccessful attempts to propose legislation to require the sale of more efficient toilets typifies the need for political will to gain higher levels of efficiencies and the difficulty in accomplishing this.

- Increasing residential density has the potential to significantly increase water use efficiency and will continue to result in a lower impact on natural resources. The highly urbanized areas of the Front Range corridor have many opportunities to redevelop lands for greater job and population densities. This will take broad political support to achieve.
- Conservation by existing customers may in some case reduce stream flow available for downstream agricultural use; however it might be mitigated by less diversions of water. We will explore this connection in our basin implementation plans, report on the effects, and offer recommendations to lessen impacts consistent with achieving enhanced levels of municipal conservation.

Recommendations: To reach enhanced levels of conservations, municipal providers need political and legislative support for:

1. **The selling of only high efficiency plumbing fixtures and appliances in Colorado.**
2. **High efficiency standards in new residential and commercial development for plumping fixtures, appliances, and landscaping.**
3. **Encouraging retrofitting existing residential and commercial properties to ~~H~~high efficiency plumbing fixtures and the auditing and retrofitting of ~~standards for the resale of residences for plumbing fixtures and~~ irrigation system to high efficiency ~~audits~~.**
4. **Coordination of urban land planning and water supply planning.**

B) Municipal Reuse

- Water gets used approximately seven times in in the South Platte and Arkansas basins as it migrates from the basin headwaters to the state's borders. The remaining water flows out of state to help meet the state's compact obligations. Nearly all unused municipal return flow is put to agricultural use in the Arkansas and South Platte basins.
- Municipal reuse by existing customers may in some cases reduce stream flow available for downstream agricultural use; however it might be mitigated by less diversions of water. We will explore this connection in our basin implementation plans, report on the effects, and offer recommendations to lessen impacts consistent with achieving enhanced levels of municipal reuse.
- Many cities are maximizing the amount of reuse they do through water trades and exchanges. For many cities, achieving higher levels of reuse will require some form of potable reuse with costly pipeline, pumping, and treatment systems which have high

operating costs and consume large amounts of electricity. Large scale reserve osmosis will likely be needed and has never been done inland. This process will require new innovative methods for waste water brine disposal on a large scale.

- Some municipal supplies, including the Colorado-Big Thompson, are single use water and cannot not be reused by the municipal water users.
- Regional cooperation on reuse projects, like the WISE project in the metro Denver area, can help further stretch locally available supplies.

Recommendations: To reach enhanced levels of water reuse, municipal providers need political support for:

1. **Regional cooperation in the development of reusable supplies.**
2. **Financing methods for reuse projects.**
3. **Research, testing, and development of environmentally responsible methods for disposal of large amount of brine needed for potable reuse.**

C) Planned Supply Projects

- Achievement of all the planned supply projects is fundamental to meeting the near term gap, including the "Identified Programs and Projects" (IPPs) from the SWSI data for meeting the nearer term supply gaps as well as other supply projects that water providers are expecting to build in the medium range timeframe.
- Projects in the permitting process including Chatfield Reservoir reallocation, Windy Gap firming, Northern Integrated Supply Project, Haligan-Seaman Water Management Plan and enlargement of Gross Reservoir. Near-term projects also include completion of the Southern Delivery System and development of the WISE project and Thornton's Northern Project. These projects are critical to meeting near-term water needs. ~~[others?]~~
- There are several incremental expansions of water systems planned for helping with the gaps in the medium timeframe, including the second phase of the Prairie Waters Project, Homestake II~~, Haligan-Seaman Reservoir,~~ and the Blue River pump back. ~~[others?]~~

Recommendations: Critical to the success of planned supply projects is the following political support:

1. **Agreement between state and federal agencies that when a supply project fits under the purposes and guidelines of the Colorado Water Plan, the "purpose and need" of a supply project will be met.**
2. **Streamlining of approval and permitting processes through an interagency coordination process between state and federal agencies.**
3. **Endorsement and advocacy by all state agencies, once a supply project receives the required state approvals and permits. This includes advocacy in the federal permitting process.**

4. **A protocol to keep Colorado's congressional delegation informed of federal agency actions needed for planned supply projects.**
5. **[Check the IBCC's IPP subcommittee recommendations for other ideas]**

D) Water Sharing with Agriculture

- The east slope roundtables have looked at the planning alternatives that involve agricultural dry-up and understand that some agricultural dry-up is necessary for the entire state to fill the supply gap.
- Additional study of water sharing practices that allow for continued agricultural production, while at the same time permitting municipal uses, is encouraged. These sharing practices are often called alternative transfer methods. Examples of water sharing practices include switching to cool weather crops, reducing soil moisture evaporation including mulching and drip irrigation, deficit irrigation, rotational fallowing, and dry year leasing.
- Holders of agricultural water rights should not be prevented from selling their property rights. Arrangements between municipal and agricultural water users should remain free market transactions. State-sponsored incentives should be used to encourage alternative transfer methods, but we do not believe the state should seek to regulate these transactions.
- Innovative approaches may require supportive water rights legislation to address the difficulties that have been encountered in the water court process. We support streamlining the water court process to encourage water sharing practices while protecting the vested rights of water right holders.

Recommendations: In order to use water sharing partnerships between municipal and agriculture that have fewer impacts to agriculture than the permanent dry-up of land, we need political support for:

1. **Continued state funding of practical research and pilot projects for water sharing partnerships between cities and agriculture including alternative water transfer methods.**
2. **Solutions for streamlining the water court process for water sharing partnerships that continue to protect vested senior water rights.**
3. **Incentives to encourage water sharing methods without interference with free market transactions.**
4. **Agricultural conservation easements coupled with municipal water lease options.**

E) New Colorado River Supply

- Maximizing the use of local supplies (including reaching enhanced levels of municipal conservation and reuse) will not meet the supply gap caused by a growing economy and population and/or a future shrinkage of supply from climate change. The scenario planning

exercises show that a large amount of east slope agricultural water or additional Colorado River water could be needed in the next 30 or 40 years to fill the east slope municipal supply gap.

- We lack an understanding of the gaps that will remain after the planned supply projects come about including the amount, timing, and location of the gaps.
- Smaller water providers on the east slope don't have the capability to develop new supplies and beyond their conservation and reuse efforts they will be left with east slope agricultural water as their only option.
- We cannot assume that cities or private investors will be able to build the Colorado River supply projects needed to avoid a large loss of east slope agriculture. The bottom line is we have reached the point in our state's development where we need to make plans for a state water project if we want to save our east slope agriculture. This is the essential trade-off that the state water plan must recognize and address.
- We envision a state water project that would only supply water to communities with enhanced levels of conservation and reuse. It would be designed and operated to provide environmental and recreational enhancements. For the east slope, project water would be combined with new storage and dry year use of agricultural water to lessen the impacts across the basins and not escalate the risk of compact curtailment. We do not mean to imply that these conditions should apply to all water projects, only state water projects.
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- It is critical that the state take actions to identify and preserve several candidates for state water projects. This process will include identification of safeguards for west slope consumptive, recreational, and environmental uses of water that the project would have to meet. The levels of conservation and reuse for recipients of water would be identified. A trigger for determining when the project would be needed would be designed.
- Preservation of options should include securing water rights and land easements or ownership.
- To provide economy of scale, access reliable supplies, and minimize impacts, we expect the state water project would need to be a large project not in the headwaters areas where other transmountain projects have been built. However, a series of smaller, incremental projects should also be considered. The attached map shows large Colorado River supply projects identified in the SWSI process.

Recommendation: To plan to build a state water project in order to save our east slope agriculture, we need political and legislative support to:

1. **Identify locations and conceptual configurations of state water projects on the Green, Yampa, and Gunnison rivers using SWSI information as a starting point.**
2. **Identify the amounts, locations, and timing of east and west slope supply gaps that will remain after construction of the planned supply projects.**

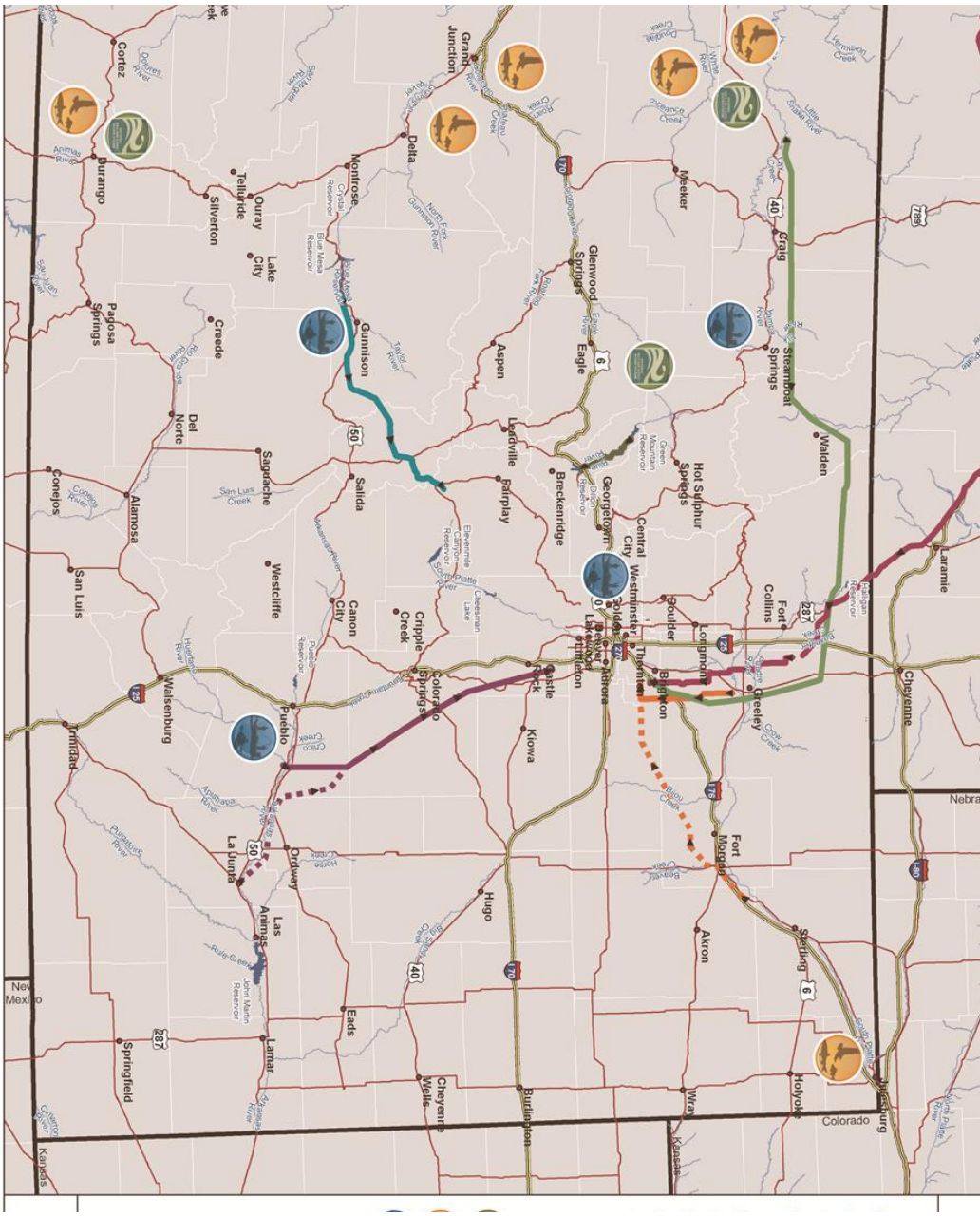
3. **Preserve the option to build projects on the Green, Yampa and Gunnison rivers including securing water rights and land easements or ownership.**
4. **Establish a trigger for determining when the project(s) would be needed and establish legislative and financial support for the project.**
5. **Require an allowance for identified projects in relevant recreational in-channel diversion project and Wild and Scenic process and alternative protection plans.**
6. **An objective and creative investigation of how to operate Colorado River Storage Project Act (CRSPA) reservoirs in the state to reduce the risk of curtailment under the Colorado River compact and how to operate the reservoirs to benefit help meet the municipal supply gap.**

F) New East Slope Storage

- Additional east slope water storage is needed to make full use of local supplies including conservation, reuse, and agricultural water sharing. Making full use of any new Colorado River supplies for the east slope will require additional east slope storage.
- Storage projects can be designed and operated to provide environmental and recreational benefits including enhancements for river habitat, fisheries, and stream flows.
- There are many forms of storage that can be used to reduce negative environmental effects including expanding existing reservoirs, building the storage off-river, and using shallow alluvial aquifers and deep aquifers for storage.
- Additional storage can be a critical hedge against drier future conditions including more frequent and severe droughts.

Recommendations: To reach the fully use of local supplies, we need the following state support to develop more east slope storage:

1. **Continue state funding of practical research and pilot projects for use of deep aquifer storage and alluvial aquifer storage on the east slope.**
2. **Political and legislative support for enlargement of existing reservoirs and building off-river storage as outlined in the recommendations for planned supply projects.**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