

4-Basin Roundtable River Basin Meeting

June 20, 2019 Minutes.

1. Reporter: These minutes were prepared by Ken Ransford, Esq., CPA, 970-927-1200, ken@kenransford.com, secretary and recreation representative for the Colorado Basin Roundtable.
2. Upcoming meetings.
 - a. CWCBC Demand Management workgroup, August 22 at Water Congress in Steamboat Springs
3. **The 4-Basin Roundtable meeting in 2014 precipitated this meeting—we knew we had to address demand management, but we did not know the numbers—how was the Colorado River being consumed, and how would a Compact Call affect different basins?** Today's meeting goal is that everybody understands Phase 3 of the Colorado River Risk Study, and communicates that to the roundtables.
4. **Karen Kwon, Colorado AG office, Overview of the Drought Contingency Plan.**
 - a. **Federal and Interstate Water Unit.** The Drought Contingency Plan has taken 6 years to negotiate; it will **reduce the risk of running down the CRSP Colorado River Storage Project reservoirs**. The Lower Basin states have their own agreement, and the Upper Basin states also have their own agreement. The Upper and Lower Basin states have signed a companion agreement, blessed by an act of Congress. Once Upper and Lower Basin consensus was reached, an agreement was signed with Mexico as well.
 - b. **Lake Mead's precipitous decline** prompted this process. The goal is to keep Lake Mead at 1,025' elevation. **The Lower Basin States** have agreed to reduce their consumption in order to keep additional water in Lake Mead. They **start taking less water once Lake Mead drops below 1,090.'**
 - c. **We know there's a structural deficit in the Lower Basin**, but the Drought Contingency Plan is not solving this structural problem. Mexico has a Drought Contingency Plan that is triggered if the Lower Basin must cut back their consumption.
 - d. **The Upper Basin Drought Contingency Plan** has 3 components: Weather modification (cloud seeding), drought response operations agreement (releasing water from CRSP reservoirs), and demand management (voluntary, compensated, temporary cutbacks coupled with an agreement to store water in Lake Powell).
 - i. **Navajo, Aspinall, and Flaming Gorge reservoir releases** will be made only if needed, and **only if they don't interfere with endangered fish recovery efforts**. It is a plan to plan.

- ii. The Drought Contingency Plan demanded a storage agreement, the **500,000 af storage pool in Lake Powell. This was the key to demand management.** Conserved consumptive use would fill this storage pool, but only as needed for Compact compliance.
- iii. Congress has permitted the Upper Basin states to store water in all the CRSP reservoirs, for no charge, on a permanent basis. It does not expire. There are 4 requirements:
 - 1) Is it feasible to do Demand Management?
 - 2) Develop a program of reservoir releases.
 - 3) Get Secretary of Interior approval.
 - 4) All Upper Division states must approve the program.
- iv. **The ability to store water in Lake Mead, and to release less than the Compact amounts, are not permitted in the decree *Arizona v. California*.**
- v. Next steps: Coordinate with Mexico; the Bureau of Reclamation will continue 24-month modeling; and the Upper Division states will investigate Demand Management feasibility. This is all being done in anticipation of renegotiating the 2026 Interim Guidelines.
- vi. Jim Pokrandt asked **if the recent agreements have left us more exposed to a Compact call by the Lower Basin.** Kwon says we now have a say in how the Secretary of Interior sends water to the Lower Basin. This also protects the minimum power pool in Lake Powell. The Lower Basin is in a crisis right now. We still don't know if Demand Management is a good idea.
- vii. Steve Harris. **Is funding necessary to make Demand Management feasible? Yes,** since irrigation cutbacks made to conserve water pursuant to Demand Management must be compensated.
- viii. Steve Acquafresca said **if the 2007 Interim Guidelines hadn't been approved, there would be 4-7 maf more water in Lake Powell today.** Kwon replied that Lake Powell was rapidly declining and without the 2007 Interim Agreement, we would have ended up in court. She disagreed that there would still be that much extra water in the facility. She listed these benefits of 2007 Interim Agreement: we reached consensus among 7 states and avoided litigation, and we released less than 8.23 maf out of Lake Powell in certain years, something that never happened previously. Lastly, we stabilized the system. In response, Acquafresca pointed out that we also **delivered more water to the Lower Basin than 8.23 maf many years.**

- ix. If the hydrology had been different—if it was dryer in the Lower Basin, and wetter in the Upper Basin, there would be more water in Lake Powell today.
 - x. Jim Pokrandt: Re-operating reservoirs is designed to protect the minimum power pool, while Demand Management is to protect against a Compact call. Kwon said these are not mutually exclusive; the main goal is to always ensure Compact compliance.
5. **Phase 3 Colorado River Risk study**—John Currier, chief engineer of the Colorado River District.
- a. In 2013, the Secretary of Interior called on states to come up with a plan to deal with a Compact call.
 - b. In Phase 1, they considered the risk of falling below 3,525’ at Lake Powell. They found they could need anywhere from 50,000 to several million af to prevent Lake Powell from dropping below 3,525.’
 - c. Phase 2 looked at Paleo Hydrology; **the current drought beginning in 2000 resembles the driest sequences in the paleo record.**
 - d. **Phase 3: If we were forced to curtail diversions, how might this play out among the various West slope river basins?** The curtailment scenarios inform what a voluntary program might look like.
6. John Carron, Colorado River Risk Study. John complimented Taylor Adams as well as the Roundtable members participating on the technical advisory committee.
- a. Peter Fleming recommended a **legal disclaimer** that this presentation is for discussion only, and **does not represent the legal position of any entity** with respect to legal or factual matters regarding the Colorado River.
 - b. Carron pleaded, “Don’t shoot the messenger.” It’s easy to find 80,000 af of water. It’s hard to say, “We don’t know what the future will be.”
 - c. **The Upper Basin’s goals are to avoid a Compact Call and to protect Lake Powell.** The risks we face are hydrology, consumptive use, and low reservoir storage conditions. Lake Powell has been barely half full for 20 years. Not having more water in the reservoir adds to the risk.
 - d. Lake Powell contains 6 maf when its elevation is 3,525’ is; at 3,490,’ it has only 4 maf. Lake Powell releases 6 maf in only 6 months. The late 1980’s and early 2000’s were very hard on reservoir levels, but in both cases, Lake Powell was full just prior to the dry spells. Despite the recent increased May 2019 precipitation, Lake Powell will only be 56% full. **We are long away from a full Lake Powell.**

- e. The 1988-2015 hydrology graph, a period of declining storage, shows how the system operated during droughts, and how it recovered. All modeling was based on the 1988-2015 stress test.
- f. The **likelihood of Lake Powell dropping below 3525' in next 25 years is 39%**, occurring in 11 of 28 trace studies. Each trace is a possible future based on a future hydrology. The likelihood that the 10-year inflow into Lake Powell drops below 82.3 maf is 46%. These assume no Demand Management measures are taken. The likelihood of 10-year average flow into Lake Mead dropping below 75 maf is 0%. This is based on current consumption. **If we increase Upper Basin consumption by 11% because of future growth (about 275,000 af), all of these risks double.** There is even a risk that under 75 MAF will be delivered to Lake Mead in a 10-year period.
- g. **It's pretty likely that something bad is going to happen down the road.** We can choose to do things in advance and have a plan. As Karen Kwon said, Demand Management is not a done deal. There are a lot of hurdles to surmount first. If actions are not implemented, or the drought becomes worse, there could be a Compact deficit.
- h. A Compact could result in voluntary curtailment. Slide 10 shows how much water is being used by basin, reproduced below. On average, **Colorado consumes about 2.5 maf each year** based on current conditions.

<i>Basin</i>	Annual Depletions (acre-feet)		
	Minimum	Average	Maximum
Yampa	173,547	196,982	215,193
White	48,550	62,060	70,397
Colorado	1,117,487	1,220,386	1,345,192
<i>In-Basin</i>	<i>650,887</i>	<i>669,397</i>	<i>692,333</i>
<i>TMDs</i>	<i>466,600</i>	<i>550,989</i>	<i>652,859</i>
Gunnison	481,626	552,418	601,030
Southwest	335,365	500,717	556,627
Total	2,156,575	2,532,564	2,788,439

- i. It is unclear which Compact date should prevail—is it the 1929 Boulder Canyon Project Act (signed June 25, 1929), or the 1922 Colorado River Compact, signed November 24, 1922, by only 6 of the 7 basin states but not Arizona? Article VIII of the 1922 Compact provides, “**Present perfected rights** to the beneficial use of waters of the Colorado River System **are unimpaired by this Compact.**”
- j. **Administration of water rights**—calling out junior users—is generally based on adjudication dates, and they are often later than appropriation dates.

Based on *appropriation* dates, consumptive use is 1.725 maf before 1922, and 1.739 through 1929. Based on *adjudication* dates, the amounts are 1.6 maf and 1.639 maf. These amounts exclude nearly all transmountain diversions since they were perfected after 1929. All models were based on the conservative 1.6 maf, the amount previously adjudicated as of 1922. **About two-thirds of water used in the state are pre-Compact.** Only 3% of the transmountain diversions are pre-Compact. Of 900,000 af of post-compact water use, 57% are Colorado River transmountain diversions, 19% is in the Southwest Basin, and 10% are in the Yampa-White basin. **If there's a compact call, 931,000 af would flow out of the state each year.**

- k. What if curtailment of post-Compact water rights wasn't the only option? A potential curtailment of 100,000 af would call out uses junior to July 1957, 300,000 af would call out uses junior to September 1940, and 600,000 af would call out uses junior to August 1935. Slide 16, reproduced below, shows what basins would contribute to these curtailments.

Target Volume (acre-feet/yr)	Yampa	White	Colorado	In-Basin	TMDs	Gunnison	Southwest
100,000 (Jul 1957)	28% 27,627	3% 2,753	59% 59,124	22% 22,309	37% 36,815	6% 5,925	8% 7,528
300,000 (Sep 1940)	16% 47,987	2% 5,325	59% 177,976	20% 59,918	39% 118,058	7% 20,862	13% 40,233
600,000 (Aug 1935)	8% 49,679	1% 8,478	55% 331,556	12% 69,452	44% 262,105	4% 26,163	19% 113,862
Full	6% 58,440	1% 11,888	66% 626,171	10% 94,403	56% 531,834	8% 57,273	19% 178,163

In every scenario, **the Gunnison Basin is responsible for less than 10% of the call**, reflecting that no transmountain diversions have been made out of the basin.

- l. What if we took a pro-rata approach, so each basin contributes water based on their percentage use of the Colorado River? John Carron repeated his disclaimer, that this is not a policy recommendation, but is background information to help inform water users. A partial curtailment by sub-basin, based on % of use, means the **Colorado River basin would provide 67% of water curtailments**, and **Front Range transmountain diverters are responsible for 57% of this 67% amount.**

Target Volume (acre-feet/yr)	Yampa	White	Colorado	In-Basin	TMDs	Gunnison	Southwest
	6.3%	1.3%	67.2%	10.1%	57.1%	6.1%	19.1%
100,000	6,270	1,276	67,186	10,129	57,064	6,145	19,116
300,000	18,811	3,827	201,557	30,387	171,191	18,436	57,348
600,000	37,622	7,653	403,114	60,774	342,382	36,871	114,697
932,000	58,440	11,888	626,171	94,403	531,834	57,273	178,163

- m. When translating this to call dates, the Yampa would call out users after 1972, while the Colorado River basin would call out users beginning July 1957. Assuming 600,000 af is needed, users junior to 1932 would be called out.

Target Volume (acre-feet/yr)	Yampa	White	Colorado	Gunnison	Southwest
	6.3%	1.3%	67.2%	6.1%	19.1%
100,000	6,270	1,276	67,186	6,145	19,116
	Jul 1972	Jul 1962	Jul 1957	Nov 1957	Sep 1940
300,000	18,811	3,827	201,557	18,436	57,348
	Aug 1962	May 1955	Nov 1935	Apr 1955	Sep 1940
600,000	37,622	7,653	403,114	36,871	114,697
	Jun 1952	Jan 1938	Aug 1935	Dec 1933	Nov 1935

- n. Conclusions: Colorado consumes 2.5 maf, 1.6 is pre-Compact and .9 is post-Compact. Transmountain diversions are 56% of post-Compact uses, and 2/3 are in the Colorado River Basin. **Transmountain diversions end up being the swing call, meaning that they are the uses that are hit by the calls.** Allocating deficits to basins results in significantly different curtailment dates. The modeling project is not yet finished. They still intend to take another look at water banking, which should be completed by the summer.
- o. Chris Treese asked if **the 0% risk that under 75 maf is delivered to Lake Mead increases with the 11% increase in consumption by Colorado. Carron said it remains at 0%.**
- p. How much water would be released from Lake Powell under model runs? The modeling replicates the Interim Guidelines and the Lower Basin Drought Contingency Plan, and the Upper Basin's operation of CRSP reservoirs, assuming they continue indefinitely and not just through 2026. The Drought Contingency Plan temporarily fixes the excess releases from Lake Powell under the Interim Guidelines.
- q. This allows us to understand what could happen. **We're not trying to solve a problem; we're trying to provide information to help people make good decisions.** How do we practice Demand Management when we don't know when we'll need it? If the risk is 0% of delivering under 75 maf to Lake Mead, you could say **there isn't a problem, correct? Not unless you assume current hydrology is the worst it will ever be in the future.** Under other sets of assumptions, Lake Powell releases can drop below 75 maf without the Drought Contingency Plan.
- r. Kathleen Curry – can individual basins obtain **supporting documentation for the summary numbers by basin?** Carron said **they will be an appendix in the final report.** Curry asked if the **Front Range** has done similar modeling, and whether they came up with similar conclusions. Carron said he'd be **"very surprised if any of this was a surprise to them."** John Currier said a technical

meeting was set for the Front Range Water council in 6 weeks to review these results.

- s. John Currier said we need a common technical platform so we aren't disputing the technical aspects of the models. This is a statewide issue, not just a West slope issue, exemplified by the fact that transmountain diversions account for 67% of post-compact uses. This begs the question, **what is the Mexican treaty obligation?** Is it 7.5 maf or something less? **The Lower Basin would say the delivery obligation is 7.5 maf plus transit losses, a higher number.**
- t. Chuck Ogilby, Colorado Basin Roundtable: In 2014, the 4 West slope Basins recommended that the Front Range adopt **high levels of municipal conservation, projected to save 450,000 af a year.** He asked whether that was in the presentation regarding how to meet a Compact call. Carron said that the model is what's happening today, and the demands are fixed—the **450,000 af savings are not assumed to have taken place. Future condition scenarios show a 13-14% demand increase, resulting in an 11% increase in Colorado River consumptive use,** were incorporated into the model.
- u. Tom Gray, Yampa roundtable member and member of the Colorado River District board of directors: How are the traces of different futures generated, and modeled—are the reservoirs increasing or dropping? This is based on Bureau of Reclamation modeling. The stress-testing hydrology is based on a 28-year sequencing of data. **The first trace is 1988 to 2015. The next trace starts in 1989 and loops through 2016. These are how the 28 traces are constructed.** They then looked more carefully at the bad traces to decide when we need to take action.
- v. You can come up with any hydrology that will crash the system. **If we start modeling in 2000, Lake Powell is below 3,490' in a lot of scenarios.**
- w. Tom Alvey, member of the Gunnison Basin Roundtable and Colorado River District board of directors, asked **how widely accepted is the 1.6 maf of pre-Compact usage?** Carron was **surprised by that amount.** He's been in touch with the CWCB, and Front Range modelers, and this is similar to what their conclusions were. **Conventional wisdom was that roughly half of consumptive use was pre-Compact and half was post-Compact.** That assumed there were no calls on the river; a lot of this use can be attributed to junior uses. The way the model works, **as a call comes on, the pre-Compact rights use their water more efficiently.** They become more efficient when they're only relying on their pre-Compact water if there's a call.
- x. Eric Kuhn said there's a third option. In *Arizona v. California*, the court said that **pre-Compact rights are the amount being diverted and consumed as of 1929 by municipal or irrigation systems.** Glenwood Springs has pre-Compact rights that now serve 10,000 people but in 1929, its population was only 800. So, this is a third possibility—**it's not the appropriation or adjudication date, it's the**

amount being consumed in 1929. The water being consumed in 1929, is about 1.3 maf, significantly less than 1.6 maf. This would really impact cities, and would likely precipitate a big fight.

- y. Over time, the **methods used to estimate agricultural consumptive use have changed. This is why we are seeing higher consumptive use now.**
- z. April Long of the Colorado Basin Roundtable said the model doesn't show Demand Management. The CRSP reservoirs don't recover until Lake Powell recovers. They assume the policies now in place continue on.
- aa. Steve Acquafresca asked, **"When the Lower Basin solves its structural deficit, how much relief does that provide?"** It provides some relief because having more water in Lake Mead means that equalization releases from Lake Powell will decline, but it doesn't solve the Upper Basin's problems—Lake Powell is still only 50% full. **If the 2000-2019 hydrology started today, Lake Powell would have real problems.** The Interim Guidelines are tilted in the Lower Basin's favor. But, we would still have problems.
- bb. Colorado River District board member **Dave Merritt said the Interim Guidelines prevent Lake Powell from ever filling, resulting in an additional 10 maf released to Lake Mead than if the 2007 Interim Guidelines had never been proposed.** There's an equalization curve, and the drafters of the Compact said the Upper Basin cannot store and the Lower Basin cannot ask for delivery of more water than they consumptively use. **3,658' is where Lake Powell equalizes with Lake Mead.** This line is based on future demands, and the hydrological period used for the Interim Guidelines, 1953-1964. We could use a different period, and with updated demands, we will never have equalization. The Interim Guidelines state that they should not impact the Upper Basin. **Dave Merritt believes that even talking about Demand Management violates the Interim Agreement!**
- cc. **What if we released 8.23 maf every year, and had no equalization releases? Carron said it doesn't make much difference.** When Powell is below 3,575,' we'll release 7.48 or 7.0 maf. **So, if we release 8.23 every year, in a really bad drought, this will hurt the Upper Basin.**
- dd. **John Currier said, "Over the long period, the Upper Basin will deliver the same amount of water either under the Interim Agreement equalization rules as it did when it released 8.23 maf every year; it just resulted in a different timing scenario."** The Upper Basin's development criteria isn't driven by the Interim Agreement; if we aren't using it up here, the water's going to go to the Lower Basin.
- ee. Tom Gray of the Yampa RT asked if there is additional water to develop in the Upper Basin. Carron and Currier said it depends on the level of risk one is willing to assume.

- ff. Size of pool in Lake Powell. If we're losing 750,000 af a year, what good is a 500,000 af water bank? It depends. If things are this bad, we won't be releasing 9 maf, we'll be releasing 7 or 7.5 maf because of the Interim Agreement.

The Upper Basin's risk is twofold – whether the Lower Basin continues its Drought Contingency Plan, and what could happen in the Upper Basin because of hydrology and growth.

- 7. **Is Demand Management appropriate and a good idea for Colorado?** Brent Newman, CWCB Section Chief of Interstate and Federal Water Information Group. Brent.Newman@state.co.us.

- a. We are just starting this process. All Upper Basin states are doing their own Demand Management feasibility investigations. For any successful outcome, everyone should be informed and engaged. This is a statewide effort, and it must be resolved together.
- b. The **goal of the 2019 work plan** approved by CWCB is to "Develop Colorado's position about whether and how to **implement a Demand Management program** that is **consistent with state law** to avoid or mitigate the risk of involuntary Compact curtailment and **to enhance security in the Colorado River water supply.**"
- c. We are not reducing use through Demand Management. We are investigating whether we can achieve Compact compliance thru voluntary, temporary, compensated Demand Management. We have to investigate every component and we need a well thought-out answer for everyone from farmers in Meeker to Denver Water.
- d. The work groups established by the CWCB to investigate this will not be making decisions. They're helping the CWCB to propose ways to investigate and frame this issue for a robust public discussion.
- e. The first job is to formulate meaningful scopes of work, budgets, and timeline.
- f. **Workgroups have formed** and members have already been chosen:
 - i. Law and Policy
 - ii. Monitoring and verification
 - iii. Water rights administration and accounting
 - iv. Environmental considerations
 - v. Economic considerations
 - vi. Funding
 - vii. Education and outreach
 - viii. Agricultural interests
 - ix. Tribal interests.

- g. Issues framed by the workgroups and proposed investigative methodology will be disclosed when appropriate. **All workgroup members signed a “disclosure agreement” limiting what they could talk about and when.**
- h. Four regional workshops will be held around the state—the first is on Thursday, Aug 22 at Water Congress in Steamboat Springs.
- i. In July a webinar will be held to open to the public to explain the workshop process.
- j. On June 21, Upper Colorado River Commission Demand Management workshop in Salt Lake City.

8. **Roundtable updates**

- a. Colorado Basin Roundtable. Kirsten Kurath, Esq., said the Colorado Basin Roundtable formed a workgroup, and it prepared a series of discussion points; these have not been adopted by the Roundtable.
- b. The Gunnison Roundtable hasn’t formed a subcommittee, but is dealing with DM as a basin as a whole. It was awaiting the results of the Phase 3 study.
- c. **Southwestern River Basin**, Mike Preston. They formed a subcommittee, and assembled historic information from 1922. They have learned there are a lot of questions that cannot be answered currently. The roundtable meets quarterly. The Roundtable sees their responsibility to serve as a bridge between policy makers and irrigators. If there is ever a curtailment, they’re **at risk because their storage reservoirs are junior to the dates that curtailments would occur.**
- d. Tom Gray, Yampa White Green Roundtable. The DM has generated more interest than any other roundtable workgroup. They reviewed the Phase 3 results, and it was eye-opening because they thought they would be junior to all other basins. They learned this wasn’t true. However, all their storage is post-Compact. How much does conserved consumptive use reduce the risk of curtailment to preserve the power pool in Lake Powell, or a Compact call? This is still unclear. **No one** entity or use **should be required to participate in Demand Management. There should be triggers—you should not store water in dry years or in the fall, when flows are low.** It’s best to store water in the spring. With 5% evaporation loss in Lake Powell, when does this result in diminishing returns?

- 9. **Russ George**, Director of the IBCC. **The IBCC was set up** to support the roundtables. It’s final purpose is **to make agreements among roundtables**; this has not yet occurred, but it is **about to occur.** We are into “hands-on” management of the complex task of Demand Management. The roundtables can ask the IBCC what the other roundtables are doing regarding Demand Management. How can we keep one roundtable from **bearing the brunt of a Compact Call—this is a statewide issue.** Who bears the brunt of a

Compact Call is unanswered today. Now we have good data to rely upon regarding demand management.

10. **Water bank work group update, Chris Treese**, Colorado River District, External Affairs Director. The group formed over 10 years ago. They envisioned the water bank as an insurance policy, so willing parties, for compensation, would re-direct their right to critical post-Compact uses. The workgroup includes the Colorado and Southwestern River Districts, Tri State Generation, and the Nature Conservancy. The FRWC was initially a member; the Upper Gunnison River Water Conservancy District, and the Uncompahgre and Grand Valley Water Users Associations were also asked to join. They're looking at the impact on West slope rural economies.
 - a. **Water use in western Colorado is primarily hay and alfalfa; these are not easy crops to fallow.** Thus, interruptible supplies are difficult, especially in quickly-drained soils.
 - b. How do you define what "temporary" or "compensation" means?
 - c. How can you help agriculture, and its community, to be sustainable?
 - d. Can you mitigate unintended consequences.
 - e. The study will be released in July, 2020. Kathleen Curry asked if the roundtables could be involved. Treese said they are working with each basin roundtable.
 - f. **Pat O'Toole from Wyoming** is concerned about unintended consequences. He said the committee should **address the role of public lands, and the importance the West slope has on food production. Also, how much growth is acceptable?** These are great questions, but **the water bank group will not look at any of these issues.**
11. **Funding for Water Plan projects, Tim Wohlgenant**, Walton Family Foundation. He worked in land use policy and helped start the Colorado Cattlemen's Land Trust, and was the chief operating officer of Colorado Public Lands. The funding group is known as **For the Love of Colorado**.
 - a. **Colorado's population is expected to reach 8.5m by 2050.** How do we maintain our quality of life in the face of a water supply that is not growing, and may be declining.
 - b. **Colorado values: Agriculture, smart land use, healthy watersheds, skiing, and recreation.** Colorado's Water Plan identified a **\$20 billion funding gap. \$17b** will come from sources **already identified**, leaving a funding gap of \$3b. **Over 30 years**, the gap amounts to **\$100m a year**. The coalition is a 501(c)(3) organization.
 - c. **The steering committee is** Russ George IBCC, Jon Golden-Dubois Western Resource Advocates, Tom Gougeon Gates Family Foundation, Ted Kowalski

Walton Family Mountain, Jim Lochhead Denver Water, Sam Mamet Colorado Municipal League, Andy Mueller Colorado River District, Kelly Brough, Terry Fankhauser Colo Cattlemen's Association.

- d. 6 Focus areas will receive funding, all equally funded:
 - i. Healthy rivers
 - ii. Watershed Health
 - iii. Conservation and Efficiency
 - iv. Productive Agriculture
 - v. Infrastructure
 - vi. Colorado Compact Obligations. This will be funded first.
- e. Since 1973, only 2 statewide funding efforts have passed, dealing with marijuana and tobacco. The concept is **getting someone else to pay the tax**.
- f. The likelihood of **passage depends in part on hydrology**. In 2012, 70% of Colorado residents thought Colorado had inadequate water supplies; that dropped to 45% and 48% in 2014 and 2017 when the drought wasn't as severe.
- g. In 2019, Proposition DD, a **sports gaming measure**, will be on the November ballot. It would generate **\$8-15m per year**, and would likely grow over time.
- h. In polls, the public has a passionate love for Colorado and value the way the state now is and they want to see it stay that way. A consultant has provided the following **ad campaign to support passing the tax**.
 - i. In 20 years, the public will double but our water supply won't.
 - ii. It's crazy to think about Colorado without enough water. This is a painting on the ground, and people can sit in it and have their picture taken holding a paddle.
 - iii. If the thought of losing rafting and fishing due to our water crisis doesn't scare you, imagine a \$28 glass of beer.
 - iv. All those in favor of saving our dwindling water resources, raise your dry, cracked hands.
 - v. They're making videos that run on the internet. In one, there's an aquarium that is leaking, and a person says, do you know it's leaking Yeah, someone will fix it, don't worry about it. A voice-over says, "**If you knew something was happening to our water supply, you'd do something.**"
 - vi. Create a splash pad at Union Station, a spontaneous water fountain at Denver Union Station; have a phone where people call up to turn the water on.
 - vii. Colorado's Water Plan is not sexy. They want to show people that there is a plan. We know what the problem is, and here is how we will assess it.

- viii. Things go better with a plan.
 - ix. “Read the most inclusive, comprehensive and collaborative water plan ever created,” on bus kiosks.
 - x. 30,000 people were asked to contribute to the water plan; the result is a plan by the people for the people.
- i. One recommendation was to include ads regarding food. Wohlgenant said there will be an agricultural component.
 - j. Robert Sakada mentioned that people didn’t know where the dollars would be spent. Wohlgenant said they’ll specifically identify the 6 categories.
12. Questions and answers.
- a. Ken Brenner recommended that a smaller workgroup of representatives from 4 West slope roundtables to meet.
 - b. There are **75 Conservation Districts in the state; they have an annual meeting in November each year**; this is a good user group to reach out to. They used to be called Soil Conservation Districts, but were renamed in 2002 in Colorado to “Conservation Districts.”
 - c. Steve Harris: Don’t the roundtable chairs talk periodically? Statewide chair meetings occur, and the 4 west slope chairs talk regularly. They should discuss Demand Management at their meetings.
 - d. Steve Harris. When the water bank work group was started 10 years ago, we knew transmountain diversions were junior and would be cut off if there was curtailment. **The water bank concept should not be overwhelmed by Demand Management discussions.**
 - e. Kathleen Curry asked if we want to do any more technical analysis. What portion of 500,000 af in the Lake Powell water bank is Colorado’s? If the state’s population doubles, **how can new economic development help pay for this?**
 - f. Kathleen Curry asked, what does 500,000 af really accomplish? “We have a quantified pool, but I don’t understand how far that’s going to go. Does that help for 1 year. **How does 500,000 af diminish the risk?**”
 - g. Steve Acquafresca—John Currier pointed out that a **500,000 af** pool would raise Lake Powell by 6-8.’ Under the normal operations of Lake Powell, it was pulled down 6’ in 3 weeks. So, this is a **3-week water supply in the reservoir.**
 - h. John McClow. The reason the number is 500,000 af, the Lower Basin states opposed the idea of a water bank, thinking the Lower Basin was stealing water. The Upper Basin offered 500,000 for the next 7 years, it was a compromise with

the Lower Basin. The 500,000 af amount was negotiated between the Upper Basin and Lower Basin.

- i. Kathleen Chandler-Henry, Eagle County Commissioner, asked if potential impacts to recreation, tourism, and agriculture were being addressed. Chris Treese said, yes, **impacts on recreation will be addressed.**
- j. John Carron—what happens if we don't do anything. **The economic analysis of what it will cost should be compared to what happens if we don't do anything.** Chris Treese—how do you look at the impact on Western Colorado, or Colorado as a whole? It is a difficult question to answer. At some level, we recognize that the economic impact of a Compact Call must be addressed.
- k. Chuck Ogilby. The conserved water that the **Front Range** can provide through municipal conservation (**reducing outdoor lawn watering** primarily) was nearly **500,000 acre feet**. This should be factored into the need for Demand Management. **Municipal conserved water should be added to the 3 tools**—cloud seeding, CRSP reservoir operations, and Demand Management.
- l. Eric Kuhn said the Bureau of Reclamation issues the Consumptive Uses and Losses report; the latest is through March 2017 for the Upper Basin. They use modified Blaney Criddle, but the trends are: **Since 1988, the Upper Basin's total consumptive use has been flat.** There's a slight downward trend due to less CRSP reservoir evaporation because Lake Powell has been lower. Upper Basin uses have been flat for 35 years. **Demands are dropping everywhere.** In 2004, Las Vegas served 3.5m with 300,000 af. Now they serve 2.2m with 250,000 af.
 - i. **Denver is serving 50% more people with the same water it used 30 years ago.** This means **we must get the demands right.** When they negotiated **the Interim Agreement**, they took an aggressive demand schedule and **projected 500,000 more af that was actually consumed;** the water wasn't consumed, and it flowed into Lake Powell, so it's available for release to Lake Mead.
 - ii. If we don't get our demands right, we'll chase the wrong targets. **Does anybody believe Front Range water demands? No one raised their hand.**
 - iii. There are 3 uses of water—export it out of the basin, grow grass with it, or use it in a thermal power plant where it's evaporated. **It takes more water to grow hay than houses, so we're seen a net reduction in water use with population growth.**
 - iv. **800,000 is more water than the City of Los Angeles uses;** if Wyoming, Utah, and Colorado want to use this much more water, how are they going to use it?

- m. **We're talking about demand reduction on the West slope, but the increased demand is on the Front Range.** We should focus on demand. Demand Management means dried up agricultural; **we can come up with more water by converting agricultural irrigation to population growth.**
 - i. Exports out of the basin for transmountain diversions have been flat since 1988. Denver's **Moffatt and the Windy Gap** firming projects are the only 2 projects, and they **are trivial compared to the total transmountain diversions in Upper Basin states of 800,000 af.**
 - n. **St. George** is in the Lower Basin, so **a diversion to it shall be charged to the Lower Basin.**
 - o. John Currier—In Phase 3, they used various iterations of the demand schedule. Phase 1 and 2 always showed increasing demands. In Phase 3, they held demands steady. The BLM permits the state to develop 120,000 acre feet of the Colorado River based on the PBO Programmatic Biological Opinion; the Gunnison River has a 30,000 af PBO allowance, and the Yampa basin has an energy allowance. These are factored into future demands of 500,000 af.
 - p. **Why are we curtailing our water use so they can have more golf courses in Las Vegas or subdivisions in Los Angeles?**
 - q. Karn Stieglemeier, Summit County Commissioner, asked **how do we incorporate increased temperatures and transpiration** when we are looking backwards at historic water use. Climate change isn't in the study that John Carron described, but Bureau of Reclamation incorporated climate change into crop consumptive use. There are datasets that address this question. The numbers continue to change. This is a big driver of getting the demands right.
 - i. **The stress test in the River Risk study is more aggressive than climate change.**
13. Kathleen Curry asked about how to share the pain between the Front Range and West slope.
- a. **Barbara Biggs, chair of Metro Denver roundtable. 1 think we should talk soon.** With all due respect to Russell George, direct discussions between roundtables to address this.
 - b. Mark, chair of **Arkansas Basin Roundtable**, echoed that direct discussions are necessary. This came across as a West slope study; **it should be a statewide discussion and include Front Range stakeholders.**
14. Ken Ransford said that **the study should identify how much it will cost Colorado residents to pay to leave water in the river.**

15. Chuck Ogilby asked for more clarification on depletions. What are the projected depletions? 120,000 af came from the Colorado River PBO. We need a better demand study than this, for the West slope, Front Range, and entire Colorado River basin.
- a. John Carron—the purpose of the study was to look at the basic question, does increased consumption increase risk? Yes. The risk is real, **there's 2 maf of post-Compact consumption in the Upper Basin, and all is at risk.** We can't say that no new uses can be developed. Working with what we have, implies that **water follows the money, so we know what that looks like.** It's important for us to see where growth will occur, and who takes on that risk. **Right now, everyone who's junior to 1922 is at risk.**
 - b. If we curtail irrigators, there won't be return flows. **Should we do a Phase 4 study on the impact on return flows.** The impacts of temporary dry-up are important to vet. **That will be discussed in the CWCB work groups.**
16. The **final report will come out in the summer** which will be more comprehensive. Taking up discussions with Front Range water providers is also on the agenda to follow up on.