

Colorado River Basin meeting minutes

1. September 28, 2020, CBRT Minutes. 2020 SWSI Update will not model reductions in Colorado River flows due to upcoming Windy Gap, Moffatt Tunnel, and Eagle River diversions; report on economic impact of Demand Management reductions in irrigation water consumption; depositing phosphorous into Blue River below Green Mountain Reservoir; description of SWSI planning scenarios; reduction in irrigated acreage in Colorado River Basin.

1. **September 28, 2020 CBRT Minutes –**

2. **Next Meetings:**

a. **October 26, 2020, CBRT Next Steps Committee, 12:00 – 2:00.**

3. Reporter: These minutes were prepared by Ken Ransford, Esq., CPA, 970-927-1200, ken@kenransford.com.

4. **CBRT Members Present:** Kim Albertson, Nathan Bell, Paul Bruchez, Stan Cazier, Kathy Chandler Henry, Carlyle Currier, Mark Hermundstad, Kelly McNicholas Kury, Merritt Linke, Holly Loff, Ed Moyer, Ken Ransford, Jason Turner, Richard Van Gytenbeek, Maria Pastore

5. **Guests:** Abby Burk, Angie Fowler, Hannah Holm, Brendon Langenhuizen, Bailey Leppak, Matt Lindburg, Russ Sands, Victor Lee, David Graf, Randi Kim, John Justman, Scott Schreiber

6. **Incoming and Outgoing Roundtable Membership:** Randi Kim was appointed to replace John Eklund as the Mesa County Municipal Representative, John Justman was appointed to replace Mark Hermundstad as the Mesa County Representative, and Jim Pearce was elected to hold the At-Large seat formally held by Angie Fowler. The Basin Roundtable thanks those outgoing members for their service and welcomes the new membership.

7. **Presentation on Proposed Large-Scale Replacement of Non-Essential Turf Grass Study, Western Resource Advocates:** John Berggren and Laura Belanger requested a letter of support from the Colorado Basin Roundtable to apply for a \$264,000 CWCB grant to study non-essential turf removal. The project will take 2 years.

a. Partners include Western Resource Advocates, the University of Denver College of Architecture and Planning, Ecoscape Environmental Design, Headwaters Corporation, Resource Central, and WaterNow Alliance.

b. One problem is that turf is very expensive to replace. The goal of this grant is to determine how to finance removing turf and to develop pilot projects to prove it can be done. This can be paid for with water savings.

- c. What political ordinances are required? The team plans to meet with utilities, encourage water efficient landscape codes, and train landscapers to use water-wise practices.
- d. Stan Cazier asked if the **Southern Nevada Water Authority** can help inform this project. Western Resource Advocates will reach out to them.
- e. Richard Van Gytenbeek asked about the expense of replacing turf grass; it's irrigated, is it assumed that turf will be replaced with native grasses. **It is up to the community to decide whether to replace turf with native grasses, or xeriscaping.** That is why they are targeting highly visible fields in cities.
- f. **John Justman** said **grass cools neighborhoods**, and asked whether golf courses will be considered essential or non-essential. This project is addressing large expanses of grass. Justman said that green grass in the desert is attractive to some.
- g. Kathy Chandler Henry supports this project. **No one objected to writing a letter of support for this grant.** Jason Turner confirmed, he would write a letter.

8. **Presentation on Upper Basin Demand Management Economic Study in Western Colorado, Doug Jeavons, BBC Research & Consulting:**

- a. Identify and **quantify secondary impacts** from Demand Management—that is, who is effected beyond participating ranchers, such as implement dealers. Are there ways to maximize the benefits and minimize the adverse impacts.
- b. If you produce less forage, you'll **purchase less from seed dealers**. These are **backward impacts**. By contrast, forward impacts occur when less hay is produced, fewer cattle can be raised.
- c. They developed crop budgets from information supplied by the USDA and Colorado Dept of Agriculture.
- d. **IMPLAN** is an economic model that estimates direct and induced impacts to businesses from a reduction in economic activity.
- e. **Hay accounts for about 90% of water consumption in the West.**
- f. **What compensation is necessary to get farmers to enroll in this project?** They figure lease payments would equal about 50% of operating income. This would amount to **\$236 per acre-foot, or \$472 per acre**, although there is **a lot of variation**.
- g. An estimated **60-90% of the payments are spent locally**.
- h. For a small project, they anticipate \$1.4 million reduction in gross income; for a **large Demand Reduction program**, they estimate **\$5m reduction in gross income**. This also equals the amounts that farmers would receive.

- i. About **1/3 of labor in Western Colorado agriculture** is hired, and these workers **risk losing their jobs**.
 - j. **Over the past 20 years, a 10% reduction in hay production has resulted in an 8% decline in livestock, and a 3% decline in net income.**
 - k. **Hay exporters have developed long-term relationships with buyers in faraway places like China, and they may not want to damage those relationships.**
 - l. About **1.6% of acreage, 1 out of 60 acres, would be affected by a small program, or 6%, 1 out of 17 acres, in a large program** designed to save 500,000 acre-feet.
 - m. **A 4-5% reduction in irrigated hay could be absorbed by the Western slope,** particularly if they are spread to different basins. Allowing them to bail out in severe droughts could be important.
 - n. Karn Stieglemeier asked if they looked at **incentivizing persons to participate** as opposed to selling water rights to out-of-state investors?
 - o. **The full report is on the Water Bank Work Group's website.**
9. **Presentation on Blue River Proposed Nutrient Injection Project, Brien Rose:**
- a. Blue Valley Ranch on the Blue River below Green Mountain Reservoir is interested in studying the benefits of **releasing phosphorous into the Blue River** in order to **improve the food chain and fish population**.
 - b. **Low phosphorous levels** in the Blue River **stunt algae production** in the river, which impacts the food chain all the way up to trout. In addition, Didymo proliferates, an invasive species that thrives in a low-oxygen environment. Phosphorous provides a food source for algae.
 - c. **A similar study was done in Kootenai River in Idaho; it is 10x larger** than the Blue River. They started injecting phosphorous at a rate of 12.5 parts per billion ppb, and saw **a 10-fold increase in algae, a 5x increase in invertebrates, and a 3x increase in trout**. That is similar to the targets hoped for on the Blue River.
 - d. There is **not much phosphorous in Green Mountain Reservoir:** 10 ppb is the EPA limit for identifying low phosphorous rivers.
 - e. **Didymo starts growing at levels of 2 ppb of phosphorous.**
 - f. They are proposing to **add 2-5 gallons of phosphorous per day** at Spring Creek, about 8 miles above the confluence with the Colorado River.
 - g. They are placing tile boards in the stream that measure algae growth; they also scrape rocks to determine this. They'll also monitor the invertebrate population in the stream.

- h. The Blue River has the lowest phosphorous levels of any sizable river in Colorado. **Phosphorous was below the detection limit in 14 of 16 samples taken** in the summer of 2020.
 - i. Karn Stieglemeier said **Summit County is very supportive** of this project. Brien Rose is asking the CBRT for a letter of support.
 - j. In the Grand Valley, algae wreaks havoc with irrigation diversion structures. Is that a different form of algae? Brien is not monitoring the Colorado River in Grand Junction. This study will likely decrease Didymo and increase beneficial forms of algae; the amount of algae that could clog streams should go down, and the forms of algae that invertebrates consume will go up.
 - k. Jason asked to see **how reversible** this process is. Brien said it was **very reversible**. He assured the roundtable that his **would not cause a biological disaster**.
 - l. **Richard Van Gytenbeek is very supportive** of this project; **these are naturally occurring nutrients**, and it's not like they are releasing something in the system that would cause later regrets. If there is too much Ph or N in the river, they can just reduce the amount they load into the river.
 - m. **Victor Lee of BOR questioned whether Libby Dam on the Kootenai River is analogous to Green Mountain Reservoir**, which has so much lower flows. Brien said they would reduce the Ph as necessary. They would dump phosphorous into the system to match the reservoir flows. Releases are a lot more variable from Green Mountain Reservoir.
 - n. David Graf said **this is ironic since biologists are usually dealing with too much phosphorous in rivers**. Could this cause another problem downstream? Is there a problem with bank hardening and channel mobility? Brien thinks the problem is that 2 upstream reservoirs are trapping phosphorous.
 - o. **No roundtable members objected** to writing a letter of support for the project. Jason asked Brien to report back to the group once the project is begun.
10. **Discussion of Future Transmountain Diversion Project Modeling for BIP Update.**
- a. A meeting was held with the CBRT Chair and Vice Chair, representatives of the major TMD's (Denver water, Northern, Aurora, Colorado Springs Utilities), the CWCB, Brown & Caldwell, Wilson Water Group, and CBRT Local Expert, SGM regarding the modeling of future trans-mountain diversion projects as part of the Technical Update to inform the CBRT BIP. This would include proposed diversions associated with the Windy Gap Firming Project, Gross Reservoir Enlargement, Eagle River MOU (both West Slope and East Slope), and proposed expansion of the Continental-Hoosier Project.

- b. **Denver Water and the Northern Colorado Water Conservancy District have suggested that the data provided in the Environmental Impact Statement is available.**
 - c. The Eagle River MOU Project is an Eagle River Joint Use project, which includes both East Slope and West Slope components.
 - d. **Concerns were expressed that additional modeling may use assumptions that are different from the modeling assumptions in the Environmental Impact Statement for the WGFP and Gross Reservoir Enlargement which could show different results than those in the completed EIS.**
 - e. Russ Sands said the CWCB **does not want to pit one basin against another**, or one state against another, or interfere with a project EIS by contracting for additional modeling at this time.
 - f. Lane Wyatt asked if this means the data generated by the proponents in EIS would not be used to model streamflow needs. Russ Sands said **the data is in the EIS** and that it is available, but it is **too broad to be imported into the model**.
 - g. Kara Sobieski of Wilson Water Group said that it would be difficult to model operations under historical levels and also under climate change.
 - i. We don't have access to data to re-look at their EIS, and copy their operations and get them into our models. The EISs were done in different study periods.
 - h. **Lurline Curran said these are the 2 most impactful prospective diversions in the entire basin, and she doesn't understand why they aren't the main focus for the 2020 CBRT Technical Update.** It would be a disservice not to include as much information as possible.
 - i. Lane said this is not meant to push back against TM diverters; rather, **its critical to the basin**, we think there is a lot of very detailed and complex analysis that has gone into evaluating stream flows, and it should not be that hard to look at.
 - j. Absent additional modeling the planned TMD's will be discussed in a narrative in the BIP which will identify the potential unknowns regarding project impacts. The narrative will be vetted with the Roundtable.
11. Technical Update, Matt Lindburg, Brown & Caldwell.
- a. SWSI 2004 was the first, then **SWSI 2015 when adaptive management was added**. SWSI has responded to the needs of water users and developed best practices. In 2019, the technical update was released. It's the technical foundation for the 2021 BIP updates, and they'll roll into the **2022 Colorado Water Plan update**.
 - b. 5 Future Planning Scenarios is the latest big change. **Climate change is being incorporated for the first time**. The agricultural gap is being shown for the first

time. Also, the environment flow tool indicates future environmental risks to the river. **How do we lower the risk that we won't meet future human water needs?** The 5 scenarios are 5 stories we might tell in 2050.

- i. **Business as usual** story: **Current trends** in hydrology, water conservation, and population growth **continue into the future.**
 - ii. **Weak economy**—the world's **economy and population growth slow.** Hydrology stays the same, so increases in water demand are lowest of the 5 scenarios.
 - iii. **Cooperative growth:** Population growth will continue with a moderate warming of climate, which will draw more people to mountainous areas. To combat the increase in demand, **we adopt conservation strategies.**
 - iv. Adaptive Innovation and Hot Growth: **Climate change and population growth are greater. Adaptive Innovation assumes we adopt water conservation** in municipal and agricultural water use, but **not in Hot Growth.**
- c. **This is the first time we have used** the Colorado Decision Support System **CDSS**, that database of all historic absolute and conditional water rights in Colorado, **to incorporate climate change.**
12. Kara Sobieski, Wilson Water Group. **In the Colorado River Basin** they focused on **expansion of cities onto irrigated farmland. Up to 13,600 acres may be converted** to urban use by 2050. The next issue they looked at was the change in agricultural irrigation demand **from climate change. Irrigation Water Requirements IWR** would **increase by 20% to 31% basin-wide.**
- a. **Emerging technologies could reduce IWR by 10%.**
 - b. We could also obtain **10% system efficiencies from lining canals and other systemwide efficiencies.**
 - c. The agricultural diversion demand is how much water is needed at the headgate. Agriculture is not receiving all the water that is needed. **All agricultural demands are based on irrigated acreage.**
13. Angie Fowler announced that **Brendon Langenhuizen is stepping down as Project Manager since he is joining the Colorado River District**, where he'll focus on water rights engineering. Angie is taking his place to run the 2020 BIP Update.
14. Beth Albrecht of Brown & Caldwell is **requesting each basin to report on WIG projects that are Tier 1 and Tier 2;** that will be released shortly. The only difference is that Tier 1 projects can be developed in the next 2 years, and Tier 2 are slated for development in the near future. **They've asked for 10 projects, and right now the list is closer to 80 projects.**