Minutes of Meeting
COLORADO RIVER BOARD OF CALIFORNIA
Wednesday, July 14, 2021

A meeting of the Colorado River Board of California (Board) was held virtually on Wednesday, July 14, 2021, using the Zoom Webinar meeting platform.

Board Members and Alternates Present:

David DeJesus (MWD Alternate)
Dana B. Fisher, Jr. (PVID)
John B. Hamby (IID)
Jeanine Jones (DWR Designee)
Henry Kuiper (Public Member)
Delon Kwan (LADWP Alternate)
Jim Madaffer (SDCWA)
Peter Nelson, Chairman (CVWD)
Glen D. Peterson (MWD)
David R. Pettijohn (LADWP)
Mark Watton (SDCWA Alternate)

Board Members and Alternates Absent:

Castulo Estrada (CVWD Alternate)
James Hanks (IID Alternate)
Christopher Hayes (DFW Designee)
Jack Seiler (PVID Alternate)
David Vigil (DFW Alternate)

Others Present:

Steven Abbott
Brian Alvarez
Justina Arce
Jim Barrett
Robert Cheng
Dennis Davis
JR Echard
Tim Gobler
Melissa Haley
Emily Halvorsen
Bill Hasencamp
Christopher Harris
Joanna Hoff
Michael Hughes
Sarai Jimenez
Lisa Johansen
Rich Juricich
Eric Katz
Larry Lai
Laura Lamdin
Enrique Martinez
Cary Meister
Dylan Mohamed
Jessica Neuwerth
Jessica Rangel
Shana Rapoport
Angela Rashid
Kelly Rodgers
Shanti Rosset
Tom Ryan
Roberta Saligumba
Keith Scoular
Tina Shields
Margaret Vick
Cherie Watte
Jay Weiner
Meena Westford
Jerry Zimmerman

CALL TO ORDER

Chairman Nelson announced the presence of a quorum and called the meeting to order at 10:02 a.m.

OPPORTUNITY FOR THE PUBLIC TO ADDRESS THE BOARD

Chairman Nelson invited members of the audience to address the Board on items on the agenda or matters related to the Board. Hearing none, Chairman Nelson moved to the next item on the agenda.

ADMINISTRATION

Chairman Nelson asked for a motion to approve the June 9, 2021, meeting minutes. Mr. Madaffer moved that the minutes be approved, seconded by Mr. Pettijohn. By roll-call vote, the minutes were unanimously approved.

COLORADO RIVER BASIN WATER REPORTS

Colorado River Basin Report

Mr. Juricich reported that as of July 12th, the water level at Lake Powell was 3,557.98 feet with 8.17 million-acre feet (MAF) of storage, or 34% of capacity. The water level at Lake Mead was 1,068.08 feet with 9.05 MAF of storage, or 35% of capacity. He noted that both reservoirs are experiencing historically low conditions. The total system storage was 24.47 MAF, or 41% of capacity, which is 6.65 MAF less than system storage at this time last year. Mr. Juricich explained that the reservoir conditions have dramatically fallen in comparison to last year, partly due the dry spring precipitation conditions.

Mr. Juricich reported that as of July 1st, the unregulated inflow into Lake Powell for Water Year-2021 (WY-2021) is 3.23 MAF, or 30% of normal and the WY-2021 forecasted April to July inflow to Lake Powell is 1.75 MAF, or 24% of normal. WY-2021 unregulated inflow into Lake Powell is projected to be the second lowest on record, behind WY-2002. For WY-2021, the observed June inflow to Lake Powell was 0.81 MAF, or 30% of normal. The July inflow forecast to Lake Powell is 0.10 MAF, or 30% of normal. To date, the WY-2021 precipitation in the Upper Colorado River Basin is 74% of normal.

Mr. Harris reported on the proposed Upper Basin DCP drought operations. He stated that on July 8th, the Bureau of Reclamation (Reclamation) informed Lower Basin state representatives that it was contemplating implementation of supplementary releases from Colorado River Storage Project (CRSP) Initial Units above Lake Powell pursuant to emergency action provisions of the Sections II.A.3.j. and II.A.4.e. of the Upper Basin DCP Drought Response Operations Agreement (DROA). Mr. Harris explained that the rationale behind these releases is to bolster storage in Lake Powell. He added that Lake Powell's elevation is falling rapidly and there is a high probability that the elevation will fall below the critical elevation of 3,525 feet, which could increase the risk of cavitation-related damage to the turbines in the Glen Canyon power plant facility.

Mr. Harris reported that Reclamation proposes to release about 180,000 AF of additional water supplies from Flaming Gorge, Blue Mesa and Navajo Reservoirs between July to December, with the bulk of the supplies coming from Flaming Gorge reservoir. He added that Reclamation determined that the 180,000 AF is needed to stave off the reservoir reaching the elevation of 3,490 feet. Reclamation will begin to incorporate the supplemental releases into the July 24-Month Study.

Mr. Harris reported that the seven Basin States will be putting together a letter of support for Reclamation's emergency action. He also explained that the emergency provisions give the Secretary the discretion to take action even above and beyond those contemplated by the Upper Basin states in the other section of the DROA.

Chairman Nelson asked for more clarity about the potential of cavitation-related damage to Lake Powell's turbines. Mr. Harris stated that Reclamation believes that the turbines risk cavitation-related damage between the elevation of 3,525 feet and 3,490 feet. Mr. Harris also explained that the bulk of supplementary releases will be released from Flaming Gorge and then Aspinall later in the summer.

Mr. Juricich reported that on July 8th, Reclamation released the updated five-year projections for the system based on June 2021 conditions using the CRSS model. Mr. Juricich stated that the updated results project a 79% chance that Lake Powell will fall below its target water-surface elevation of 3,525 feet sometime next year. In addition, beyond 2022, there is a 5% chance that Lake Powell will fall below the minimum power pool elevation of 3,490 feet in 2023 and a 17% chance in 2024. He added that the longer-term projections show a 58% and 21% chance that Lake Mead will decline to the critical elevation of 1,025 and 1,000 feet by 2025, respectively.

Mr. Juricich reported that the second and third consultation for the 2022 Annual Operating Plan for the Colorado River Reservoirs are scheduled for July 22nd from 10 am to 1 pm, PDT and August 31st from 11 am to 2 pm, PDT. He stated that the annual operating plan highlights the operating condition for this year and the projects for next year.

Mr. Juricich reported that Reclamation scheduled a webinar to discuss the results of the August 2021 Most Probable 24-Month Study on Monday, August 16th. Mr. Juricich explained that the August 24-Month Study sets the operating conditions for both Lakes Powell and Mead for the next year based on the projected of the January 1st elevation of 2022.

Mr. Juricich continued the Colorado River Water Report stating that precipitation conditions in May were below average for most of the Basin. He stated that an early June push of monsoonal moisture northward toward Colorado led to much above average precipitation in southwestern and central Colorado.

Mr. Juricich presented the end of month elevations for the June 24-Month Study. He reported that the most probable release for 2021 is 8.23 MAF release from Lake Powell in WY2021, followed by a 7.48 MAF release in WY 2022. Mr. Juricich explained that Lake Powell is anticipated to drop lower than the 2005 level of 3,555 feet beginning in July 2021. He added that Lake Mead is expected to stay below the elevation of 1,075 feet for the rest of the year, which will trigger a shortage condition in 2022 for the first time.

Mr. Juricich reported that through July 1st, the Brock and Senator Wash regulating reservoirs captured 64,664 AF and 37,432 AF, respectively. He also reported that the excess deliveries to Mexico were 17,582 AF, compared to 48,053 AF last year. Finally, the total amount of saline drainage water bypassed to the Cienega de Santa Clara in Mexico was 59,360 AF.

Mr. Peterson inquired whether monsoonal rains could be quantified. Mr. Juricich responded that Reclamation tracks the monsoonal activity as intervening side inflows in the region between Glen Canyon and Lake Mead, as well as the area between Hoover Dam and Imperial Dam. Mr. Juricich stated CRB Staff will provide additional information regarding Reclamation's tracking of monsoonal activity and intervening side inflows.

State and Local Report

Ms. Jones, representing the California Department of Water Resources (DWR), reported that the end of the water year is nearing and many regions in California have received 30% to 50% of average precipitation. She noted that a number of basins may rank second, in terms of runoff, with 1977 being the driest year of statewide runoff. Ms. Jones reported that as of July 1st, statewide reservoir storage is 61% of average. She stated that the reservoir storage represents 154 reservoirs and the large central valley reservoirs represent 71% of the statewide storage. She stated that Shasta, Oroville and Folsom are substantially lower than average.

Ms. Jones reported that the Governor expanded the drought emergency proclamation to cover fifty counties, excluding the city and county of San Francisco and many Southern California counties. She stated that there is an extreme moisture deficit in the climate system and we need

substantially above average precipitation to get average runoff. She noted that the Colorado River Basin received nearly 70% of precipitation to date but only close to 30% of runoff into Lake Powell, stating that it illustrates how precipitation and runoff relationship changes in dry conditions. She added that DWR conducted some preliminary modeling with USGS and found that 140% of average rainfall is needed to get 100% of runoff. She also noted that the National Oceanic Atmospheric Administration (NOAA) has also forecasted a 66% chance of a La Nina condition for this fall and winter season for California. She noted that La Nina conditions often brings dry conditions to Southern California.

Responding to a question from Mr. Harris, regarding the State Water Project's projected allocation, Ms. Jones stated that allocation would be 5% unless precipitation conditions improve.

Mr. Peterson, representing The Metropolitan Water District of Southern California (MWD), reported that MWD's storage capacity is 82%. He noted that MWD has diverted 516,000 AF and MWD will operate on an eight-pump flow through the summer. MWD's consumption is 97% of average and its target for Coachella and Desert Water Agency is 15,000 AF. He added that at the end of the year, MWD will have 2.5 MAF in storage in all of its accounts.

California Guiding Principles

Board Staff Ms. Neuwerth reported that Board staff was working with California stakeholders to develop a set of California Guiding Principles, intended to serve as a set of high-level consensus-based goals and objectives for the next set of System operating guidelines. Ms. Neuwerth reported that eleven guiding principles were drafted and included in the Board folder. She noted that the principles would likely remain flexible in order to incorporate changes to California's priorities throughout the development of the next set of guidelines.

Mr. Harris noted that the process to develop the guidelines served as the catalyst for collaboration among California's Colorado River agencies. He reported that the principles fell into several categories, including foundational, process-based, and solution-oriented. Mr. Harris thanked agency staff for their time and effort in the development of the guiding principles.

STATUS OF COLORADO RIVER BASIN PROGRAMS

Status of Salinity Control Program

Mr. Juricich provided an update on the Colorado River Salinity Control Program including a summary of Colorado River Basin Salinity Control Forum, Advisory Council, and Forum Work Group meetings held on June 4, 7, 9, and 10, to further implementation of the Salinity Control Program. Mr. Juricich reported on the current low flow and high salinity conditions in Dolores

River at the Paradox Valley Unit (PVU) salinity control project. The Dolores River is showing the negative impacts associated with the continued shutdown of the existing PVU brine injection well. The injection well is likely to remain shut down through 2023 while Reclamation conducts seismic hazard and risk assessment. Reclamation has selected a firm to evaluate potential effects of the extended shut down of the injection well, and Reclamation will work with the Forum to explore new options to replace the injection well.

Mr. Juricich also reported that the Advisory Council approved funding for two new salinity studies under the Basinwide Studies, Investigations and Research Program. Both studies will fund the U.S. Geological Survey (USGS) to collect two years of quarterly water quality data during 2022 and 2023. The data will be used to determine a salt budget for the study areas, which could then be used to determine the viability of salinity projects in the future. The first study, with a cost of $28,000, will support the USGS to conduct salinity sampling and analysis in the Lower Colorado River at a location below the Colorado River Indian Tribes (CRIT) lands, AZ. The second study, with a cost of $20,000, will support the USGS to conduct salinity sampling and analysis in the Upper Basin near Squaw Gulch, Colorado at the Cimmaron Canal.

Mr. Juricich summarized a presentation provided by Reclamation on the current state of analytical tools to provide short-term forecasts of salinity conditions under low reservoir levels. It was reported that there is a time lag of approximately 2 years from when high salinity levels reach Lake Powell and when they are observed downstream at Lake Mead. Reclamation has a tool, CE-QUAL-W2, that has the ability to consider total dissolved solids in the reservoirs.

Mr. Robert Cheng asked if there is any information about the trends in salinity in Lake Mead. Mr. Juricich responded that information was collected on Lake Mead salinity by Reclamation, and that staff would report back at a future Board meeting. Mr. Harris responded that Reclamation has long established monitoring stations below Hoover Dam, below Parker Dam and at Imperial Dam.

Mr. Juricich reported that Board staff have been tracking the recurrence of spikes in total dissolved solids (TDS) concentrations in the Lower Colorado River since 2019 when an increase in TDS concentrations was observed in the water supplies conveyed in the All-American and Coachella Branch Canals. Mr. Juricich presented information on TDS data associated with various water quality sampling locations along the Lower Colorado River from January 2019 through May 2021 and historical information as far back as 2010.

Mr. Harris commented that there are several potential causes for the observed spikes in salinity concentration in the Colorado River below Parker Dam, including reduced flows in the winter, return flows, and geologic conditions. The next step is to engage with other Lower Basin entities, Reclamation, and potentially the US Geological Survey to conduct additional monitoring and mitigation options.

Chairman Nelson commented that both he and Director Hanks are concerned about the winter spikes in salinity, especially for winter vegetables.

Member Hamby commented that he has had conversations with staff about IID's engagement with the Salinity Control Forum.

Member Watton asked for clarification on the current conditions with salinity and the treaty requirements with Mexico. Mr. Harris responded that it is manageable right now. A bigger challenge is the potential for reduced flows and the difficulty in blending water and saline drainage water.

Chairman Nelson commented that the California agencies develop salt and nutrient management plans that are approved by the Regional Water Quality Control Boards.

Member Watton asked if the agencies must add additional water to flush the root zones, and how that affects water use. Chairman Nelson responded that water schedules include additional water for leaching salts. Member Hamby responded that the fresher the water supply is the less water is needed for leaching salts from soils.

Mr. Harris commented that salinity is a rising priority for the River, and the Basin needs to develop a replacement for the Paradox Valley Unit project. Without implementation of a feasible alternative, its inoperability will result in an additional 100,000 tons of salt in the water supply.

Member Fisher commented that he has seen spikes in *e. coli* in the River and has wondered if there is a correlation between *e. coli* and salinity spikes. This is a concern for production of winter vegetables. Mr. Harris responded that staff will further explore this issues and report back to the Board.

Glen Canyon Dam Adaptive Management Program

Ms. Neuwerth reported that the Technical Work Group (TWG) for the Glen Canyon Dam Adaptive Management Program met via webinar on June 16-17. Ms. Neuwerth reported that the group reviewed the 2021 budget and work plan and recommended several projects that could be pursued if additional funding became available. Ms. Neuwerth also noted that the group discussed the potential ecological effects of an anticipated 7.48 MAF release from Glen Canyon Dam in WY-2022. The group reviewed the ecological conditions observed after the only previous release of 7.48 MAF, which occurred in 2014. The potential WY2022 low release volume would likely coincide with unusually warm water temperatures, which Ms. Neuwerth noted could offer an advantage to both native fish and warmwater nonnative fish.

In response to a question from Chairman Nelson on future Glen Canyon Dam Adaptive Management Program funding, Ms. Neuwerth noted that over the last few years, program funding has been vacillating between power revenues and Congressional appropriations. Ms. Neuwerth stated that if power revenues are no longer available or available in lower amounts, the program would likely rely more heavily on appropriated funds.

Finally, Ms. Neuwerth noted that the Adaptive Management Work Group would meet via webinar on August 18-19.

Lower Colorado River Multi-Species Conservation Program

Ms. Neuwerth reported that the Steering Committee for the Lower Colorado River Multi-Species Conservation Program (LCR MSCP) met via webinar on June 23rd. The group reviewed and approved the *Final Implementation Report, FY22 Work Plan and Budget, FY20 Accomplishment Report*, which is prepared annually to review previous activities and direct future activities.

Ms. Neuwerth also reported that a fire burned more than 1,250 acres of the Bill Williams National Wildlife Refuge in late June, adjacent to LCR MSCP habitat.

U.S. Fish and Wildlife Service Announcements

Ms. Neuwerth reported that the U.S. Fish and Wildlife Service (USFWS) had recently made two major announcements regarding listed species. On July 7th, the USFWS published a proposal to downlist the razorback sucker from endangered to threatened. Ms. Neuwerth reported that the species has been listed as endangered since 1991 and is the subject of stocking and management programs in the Upper and Lower Basins. In its proposed rule, the USFWS reported that there are currently seven populations of razorback sucker across the Basin, although most of these populations are sustained by stocking. Ms. Neuwerth reported that the downlisting would still provide for strong protections for the razorback sucker, while allowing for some flexibility for accidental or even intentional take of the species in some management or angling situations.

Ms. Neuwerth reported that the USFWS also finalized delisting of the Kanab ambersnail, which is found in areas of southwestern Utah and one area of the Grand Canyon. Recent genetic testing indicated that the species was not genetically distinct from regional ambersnail populations and therefore did not meet the definition of an endangered species.

GENERAL ANNOUNCEMENTS

Salinity Spikes

Mr. Juricich reported on salinity spikes in the lower Colorado River. Mr. Juricich stated that Board staff have been tracking the recurrence of spikes in the total dissolved solids since 2019. Mr. Juricich and Mr. Harris indicated that reduced flows released out of Lake Mead; bank discharge; and, winter rains flushing sediments from the local geologic outcrops, may contribute to the spikes. Mr. Juricich noted that Board staff will continue to evaluate available water quality data from Reclamation.

Basin States Technical Meeting

Mr. Harris reported on the Basin States Technical meetings held on June 28-30. Mr. Harris stated that technical representatives of the Basin states met in Denver, Colorado to kick-off a process to develop and review technical assumptions and parameters to be utilized in modeling long-term Colorado River reservoir system operations and identification of impacts to the water supply conditions. Mr. Harris also reported on the CRSS sensitivity analysis. Mr. Harris indicated that the CRSS sensitivity analysis will evaluate and identify key drivers including hydrologies, depletion demand schedules, existing operational policies and then identify key metrics, including impacts to Lakes Powell and Mead elevations and annual release volumes; and, that the technical workgroup will continue to develop CRSS sensitivity analysis over the summer.

Webinar: Trends in Recent Historical and Projected Climate Data for the Colorado River Basin and Potential Effects on Groundwater Availability

Mr. Juricich presented a summary of a June 16, 2021, webinar organized for the California Agencies with presentations from the USGS and Reclamation on their report published in November 2020 on groundwater trends in the Upper and Lower Colorado River Basins. The report documents the data, methods, and results from the investigation of recent historical and projected climate data, and simulated, projected groundwater infiltration in the Colorado River Basin.

Washington, D.C. Updates

Mr. Harris reported on the Six States Colorado River Basin Letter. Mr. Harris indicated that the six Basin States sent a letter to Chairman Grijalva, the Chair of the House Natural Resources Committee, on June 28. 2021, expressing support for the investments and opportunities identified by SNWA in testimony and responses to questions following the May 25th western water hearing.

Mr. Harris reported on administrative nominations. Mr. Harris stated that the Senate voted unanimously to confirm Ms. Tanya Trujillo to the Department of Interior's Assistant Secretary for Water and Science, which oversees Reclamation and the USGS; Mr. Tommy Beaudreau was confirmed as the Deputy Secretary of the Interior; Ms. Radhika Fox was confirmed as the Assistant Administrator for EPA's Office of Water; and, Ms. Camille Touton was nominated to be the

Commissioner of the Bureau of Reclamation on June 18, 2021.

Mr. Harris reported on the White House infrastructure negotiations. Mr. Harris stated that the White House recently reached a bipartisan agreement with 22 senators on the framework of an infrastructure proposal. Mr. Harris also reported on the House Transportation Bill. Mr. Harris noted that the House passed the $715B Invest Act, which reauthorizes the nation's surface transportation funding programs and includes drinking and wastewater provisions.

Mr. Harris reported that there have been several bills introduced in Congress to address the ongoing western drought crisis. Mr. Harris noted that Sen. Barrasso introduced S. 2158, the Western Water Infrastructure Act, which would provide millions of funding for WaterSMART water recycling and desalination. Mr. Harris concluded by stating that Rep. Valadao introduced the NEED Water Act, which would extend the WIIN Act in its entirety and mandate several actions to manage water resources in the Central Valley and State Water Projects.

Next Scheduled Board Meeting

Finally, Mr. Harris noted that the next meeting of the Colorado River Board would be held on August 11, 2021, and would also be held virtually using the Zoom Webinar meeting platform.

ADJOURNMENT

With no further items to be brought before the Board, Chairman Nelson adjourned the meeting at 11:54 a.m.