

**MONTHLY REPORT TO THE
COLORADO RIVER BOARD OF CALIFORNIA**

May 11, 2022

ADMINISTRATION

Fiscal-Year 2022/2023 Budget for the Colorado River Board of California

The State budget submitted by Governor Gavin Newsom in January 2022 and through the May revised budget process reflects a proposed budget for the Colorado River Board of California (Board) in Fiscal-Year 2022/2023 (FY-22/23) of \$2,514,000. At its June 15, 2022, Board meeting, the Board will be asked to approve and adopt its budget for FY-22/23.

COLORADO RIVER BASIN WATER SUPPLY CONDITIONS REPORT

As of May 9th, the surface water elevation of Lake Powell was 3,523.06 feet with 5.81 million-acre feet (MAF) of storage, or 24% of capacity. The surface water elevation of Lake Mead was 1,052.94 feet with 7.90 MAF of storage, or 30% of capacity. As of May 8th, the total System storage was 20.30 MAF, or 34% of capacity, which is about 5.07 MAF less than the total System storage at this same time last year.

As of April 5th, storage in the Upper Basin reservoirs, excluding Lake Powell, included the following volumes: 46% of capacity at Fontenelle Reservoir in Wyoming; 77% of capacity at Flaming Gorge Reservoir in Wyoming and Utah; 96% of capacity at Morrow Point and 31% of capacity at Blue Mesa Reservoir in Colorado; and 55% of capacity at Navajo Reservoir in New Mexico.

As of May 4th, the April observed inflow into Lake Powell was 0.59 MAF (66% of normal) and the May forecasted inflow is 1.45 MAF (70% of normal). The preliminary forecasted unregulated inflow into Lake Powell for Water Year (WY) 2022 is 5.98 MAF (62% of normal). The forecasted April through July 2022 unregulated inflow into Lake Powell is 3.8 MAF (59% of normal). To date, WY-2022 precipitation is 94% of normal and the current Basin snowpack is 68% of normal.

Colorado Basin River Forecast Center Water Supply Webinar

On May 5th, the Colorado Basin River Forecast Center (CBRFC) held its last webinar of the season to review the Basin's current water supply conditions and forecasts. The CBRFC provided an overview of the April precipitation and temperature conditions throughout the Basin. Temperatures in April were near normal in northern regions of the Upper Colorado River Basin, while the Lower Colorado River Basin experienced above normal temperatures that resulted in snowmelt. The CBRFC noted that the active period for snowmelt occurred between April 18– 22, 2022. Overall precipitation conditions in April were below normal for a majority of the Basin, with exception of the Upper Green, Duchesne, Price/San Rafael, and Yampa/White River basins. Dry soil conditions continue to persist throughout several areas of the Basin and will likely impact runoff efficiency.

The CBRFC discussed the peak snow conditions and snow melt in April and into early May. In the Upper Colorado River Basin, the seasonal peak snow water equivalent (SWE) ranged from 83% of peak SWE in the Upper Green River Basin to 101% of peak SWE in the Gunnison River Basin. In the Lower Colorado River Basin, the range of seasonal peak SWE was 58% of peak SWE in the Lower Colorado River basin to 97% of peak SWE in the Virgin River basin. As of May 5th, snow conditions in the Upper Colorado River Basin are near normal in the Upper Green, Yampa/White, and Upper Colorado Mainstem River basins. Snow conditions are less favorable in the San Juan River basin, with 35% of median SWE, while no snow remains in the Dolores River basin. The May 1st water supply forecast for April to July inflow range from 45% to 95% of normal, with forecast declines in the southern basins due to below average precipitation conditions in April.

The anticipated weather outlook for May 6th through May 12th is for warm, dry, and windy conditions. No significant precipitation is expected, however the best chance for precipitation during this period will be in high elevation of the northern region of the Basin.

Water-Year 2022 Colorado River Basin Operations Update

As has been previously reported, the Department of the Interior (DOI) and Bureau of Reclamation have been involved in a series of consultations with the seven Basin States, Native American tribes, Mexico, and other stakeholders regarding the development and implementation of additional measures intended to protect critical elevations in Lake Powell during the remainder of Water-Year 2022. These discussions and efforts have resulted in two specific changes in WY-2022 operations.

The first modification is associated with DOI's approval of the 2022 Drought Operations Plan, prepared by the Upper Basin states and Reclamation pursuant to the 2019 Drought Contingency Plan. For the period May 2022 through April 2023, additional releases totaling 500,000 acre-feet

will be made from Flaming Gorge Dam and Reservoir and will be retained in Lake Powell. DOI's approval memorandum, dated April 29, 2022, and the final 2022 drought operations plan have been posted to Reclamation's Upper Colorado Region website at <https://www.usbr.gov/dcp/droa.html>.

The second modification is that the WY-2022 release from Glen Canyon Dam (GCD) will be adjusted downward from the 7.48 MAF specified in the 2022 Annual Operating Plan that was adopted by DOI Secretary Haaland on December 8, 2021, to 7.0 MAF. This downward adjustment of 480,000 acre-feet will commence in May and continue through the end of the Water-Year on September 30, 2022. This action is the result of an exchange of letters between DOI and the seven Basin states and Native American tribes. On May 3, 2022, Assistant Secretary for Water and Science, Tanya Trujillo, indicated that the WY-2022 release from GCD would be temporarily adjusted downward by 480,000 acre-feet through the remainder of the Water-Year, and that this adjustment would be conducted in an operationally neutral fashion and with respect to August 2022 24-Month Study determinations will be implemented as follows:

- For projections of Lake Powell operations, the August 24-Month Study determinations will be made as if the 480,000 acre-feet reduced release amount is not present in Lake Powell;
- For projections of Lake Mead elevations, the August 24-Month Study determinations will be made as if the 480,000 acre-feet reduced release amount is present in Lake Mead;
- The foregoing approach to operational neutrality and tier determinations will be made in the August 2022 24-Month Study projections for water year/calendar year 2023 and all subsequent tier determinations under the 2007 Interim Guidelines and 2019 Drought Contingency Plan or until such time as the 480,000 acre-feet of reduced release amount is fully released from Glen Canyon Dam; and
- Consistent with the provisions of the 2007 Interim Guidelines and to preserve the benefits to Glen Canyon Dam facilities and operations in 2023, Reclamation will consult with the Basin states on monthly and annual operations.

This action to reduce the release from GCD for the remainder of the Water-Year when combined with the 2022 drought operations release from Flaming Gorge Dam and Reservoir results in nearly 1.0 million acre-feet of additional storage being retained in Lake Powell and greatly reducing the probability of Lake Powell reaching or falling below critical elevations (i.e., 3,525' or 3,490'). DOI's May 3rd letter indicating this decision and the implementation process has been included in the Board folder hand-out materials.

COLORADO RIVER BASIN PROGRAM UPDATES

Status of the Implementation of Minute No. 323

A quickly convened meeting of the Minute Oversight Group (MOG) overseeing the continued implementation of Minute No. 323 was held in Mexico City on April 27, 2022, at the Mexican Federal Foreign Affairs Department. The meeting included the members of the MOG from both countries, and also several high-level representatives of Mexico's Foreign Affairs Department, and the Director General and Deputy Director of Mexico's National Water Commission (CONAGUA). The purpose of the meeting was to provide the Mexican delegation with a detailed overview and description of the current hydrologic and water supply conditions in the Colorado River Basin and the actions then being proposed to help protect critical elevations in Lake Powell (i.e., the 2022 drought operations plan and proposed downward adjustment in GCD releases in WY-2022). Reclamation provided an excellent presentation associated with the current hydrology, status of the reservoir system, and projections of future conditions. Discussion following the presentations by Reclamation indicated the gravity of the situation was well understood by members of the Mexican delegation.

Second, the MOG received an update on additional water conservation activities being proposed by Mexico in support of the on-going Lower Basin efforts, through the 500+ Plan, to conserve and store an additional 500,000 acre-feet of water in Lake Mead in both 2022 and in 2023. It should be noted that these proposed additional Mexican water conservation activities are considered complementary to but not part of the U.S. domestic 500+ activities. Mexico has identified a series of proposed water conservation projects and activities that are intended to provide additional conserved water supplies for storage in Lake Mead in 2022 and in 2023. The intention is to have these projects identified and under contract by July 2022 so that the benefits of the activities can be included in the August 2022 24-Month Study projections and operational determinations for the 2023 Annual Operating Plan.

The MOG also received status reports and updates from the various Minute No. 323 work groups, including hydrology, salinity, projects, desalination, flow-variability, All-American Canal turnout, and the environmental work groups.

Colorado River Basin Salinity Control Program

Colorado River Basin Salinity Control Program Implementation

The Salinity Control Forum Work Group held a hybrid in-person/virtual meeting on April 11-13, 2022, with in-person participation at the Washington County Water Conservancy District Offices in St. George, Utah. Key topics under discussion included updates from Reclamation, the U.S. Geological Survey, and Natural Resources Conservation Service on program funding, research, and implementation. The Work Group also discussed salinity control scenarios and data to be used to develop the 2023 Triennial Review of Water Quality Standards for Salinity in the Colorado River System. Section 303 of the Clean Water Act requires that water quality standards are reviewed every three years by the Forum.

Reclamation provided an update on the status of the Paradox Valley Unity (PVU) salinity control project, located in Montrose County, Colorado. PVU has not operated since March 2019 in response to a significant seismic event. When fully operational, the PVU removed about 100,000 tons of salt per year that would have otherwise entered the Colorado River. After the Work Group meeting Reclamation indicated the Commissioner has approved the implementation of a Test Injection Plan at PVU that will restart injection of brine at a rate of 115 gallons per minute, equivalent to approximately 5500 tons of salt control per month. It will take Reclamation up to 8 weeks to get the PVU facility up and running again after the extended closure. The timeline is based on the need to hire and train new contractors. This proposed Test Injection process is welcome news since recent monitoring data indicate that salt loads in the Dolores River are increasing with approximately 32,000 tons of salt observed since February of this year. The Test Injection period is expected to run for at least six months provided no new significant seismic activity is observed.

The restart of PVU operations will figure prominently at the May meeting of the Salinity Control Forum to be held May 11-12 in Moab, Utah. Forum members will tour the PVU facilities in Paradox Valley and tour the facilities of Intrepid Potash located in Moab. Intrepid Potash operates a salt evaporation pond facility which is supplied salt through underground solution mining of the Paradox Formation. Intrepid Potash has expressed interest in potentially participating in a long-term solution of brine beneficial use at PVU.

Glen Canyon Dam Adaptive Management Program

The Technical Work Group (TWG) for the Glen Canyon Dam Adaptive Management Program (GCDAMP) met via webinar on April 12-13. A significant portion of the meeting focused on potential impacts and responses to challenges presented by unprecedentedly low Lake Powell levels, including reduced releases, increased water temperature, and increased likelihood of entraining predatory nonnative fish in dam releases.

A team of representatives from federal agencies and the Arizona Game and Fish Department has been organized to better understand the near-term threat of smallmouth bass establishment below Glen Canyon Dam and to explore mitigation opportunities. As reservoir levels fall, the likelihood increases that non-native fish, including smallmouth bass, will pass through the dam and establish breeding populations below Glen Canyon Dam, where they would pose a significant threat to the successful native fish populations in the Grand Canyon. Cold temperature water releases from the dam and higher reservoir levels are believed to be primary reasons smallmouth bass have not established populations in the Lower Colorado River in the past. The Pearce Ferry Rapid has also acted as a barrier to prevent passage of smallmouth bass from Lake Mead into the Grand Canyon. The team is modeling entrainment risk under different management scenarios and evaluating potential rapid response efforts. Thus far, the team has concluded that smallmouth bass are a greater threat to native fish and rainbow trout than any other invasive fish currently present in the system and that reservoir conditions are changing to support increased entrainment and establishment below Glen Canyon Dam. The team also concluded that limiting entrainment and controlling temperature are the only large-scale tools currently available to prevent the establishment of smallmouth bass. Reversing establishment of a smallmouth bass population will likely be drawn out, expensive, and may be relatively ineffective.

The TWG received a report on the status of smallmouth bass in the Upper Colorado River and efforts to control those populations. The establishment of smallmouth bass in the Upper Colorado River was followed by significant and sustained declines in populations of native fish. Studies in this area have shown that smallmouth bass are difficult to remove through physical means. Experimental flow spikes have helped disrupt egg sites; however, preventing initial colonization remains the best option for managing the species.

The TWG received an update regarding ongoing research by Reclamation into potential fish exclusion options to prevent passage of non-native fish through Glen Canyon Dam. Both physical exclusion and behavioral barriers are being evaluated. Physical exclusion options include nets, screens, curtains, guide walls, and withdrawal of deeper water through bypass pipes. Behavioral barriers being considered include bubble curtains, light and sound barriers, submerged velocity

jets/flow alteration, turbulence barriers, electric barriers, and floating booms with hanging curtains/chains. Downstream options for non-native fish control are far more limited than exclusion prior to passage through the dam. Options are being evaluated based on applicability to Glen Canyon Dam. Reclamation is seeking more information on previous experience with the use of bubble curtains.

The Department of the Interior released a formal decision approving a recommendation to conduct a fourth year of macroinvertebrate production flows, or "bug flows," in summer 2022. These experimental flows, intended to benefit the food base downstream of Glen Canyon Dam, have been conducted May-August in 2018, 2019, and 2020 with equivocal results. Initial data indicates that some insect taxa have increased in some years, but not others. During 2021, a scientific review panel evaluated findings from previous Bug Flow experiments. The reviewers provided feedback including potential avenues for improved future experiments and concluded that there was considerable knowledge to be gained in conducting future Bug Flows experiments. The Glen Canyon Planning/Implementation Team (PI Team) provided a non-consensus recommendation to the Secretary of the Interior to conduct Bug Flows in 2022. Operational uncertainties and the potential for adverse effects to hydropower revenues ranked highly among concerns of the PI Team. The PI Team will meet regularly during 2022 Bug Flows to evaluate whether new conditions or unanticipated negative impacts have occurred or are likely to occur. The Acting Secretary's Designee has also directed the PI Team to review the planning process, implementation, and monitoring activities and develop a list of lessons learned to inform potential future experiments and experimental planning once 2022 Bug Flows conclude.

The Adaptive Management Workgroup of the GCDAMP is scheduled to hold its next meeting on May 18, 2022. The next meeting of the TWG is scheduled for June 15–16, 2022. Both meetings will be virtual.

Lower Colorado River Multi-Species Conservation Program

The Lower Colorado River Multi-Species Conservation Program (LCR MSCP) held a Steering Committee meeting on April 27. The Steering Committee elected Mr. Seth Shanahan of the Southern Nevada Water Authority as Chair and Ms. Vineetha Kartha of the Central Arizona Water Conservation District as Vice Chair. The meeting focused on budget, fisheries, conservation area, and adaptive management accomplishments in FY-2021. These accomplishments are detailed in the Draft Implementation Report, Fiscal Year 2023 Work Plan and Budget, Fiscal Year 2021 Accomplishment Report, available at: <http://lcrmscp.gov>. Comments on the draft report were due on May 9th, and the final report will be available June 15, 2022.

LCR MSCP staff reported that Reclamation has recently initiated formal consultation with the U.S. Fish and Wildlife Service (USFWS) on a proposed modification to the covered activities under the Program. The LCR MSCP allows for reduced flows along the Colorado River, as the result of actions such as transfers, shortages, and storage of conserved water in Lake Mead. These activities have increased significantly since the LCR MSCP was finalized in 2005, and current coverage levels were becoming insufficient, particularly in upper reaches of the Lower Colorado River. The proposed action would increase the maximum allowable reduction in flow to 1.574 MAFY between Hoover and Parker Dams. Although Reclamation is leading the consultation process, the non-federal LCR MSCP permittees are considered applicants to the process. USFWS is expected to finalize a Biological Opinion on the action by August 2022.

The Work Group of the LCR MSCP is scheduled to meet on May 11-12. The next Steering Committee meeting will be held on June 22. Both meetings will be virtual.

GENERAL ANNOUNCEMENTS AND UPDATES

Pathways to 30x30: Accelerating Conservation of California's Nature

The California Natural Resources Agency (CNRA) on April 22 released two documents: (1) the final Pathways to 30x30: Accelerating Conservation of California's Nature strategy to support the state's pledge to conserve 30 percent of California's lands and coastal waters by 2030 (30x30) to protect biodiversity, advance equitable access to nature and address climate change and (2) the final Natural and Working Lands Climate Smart Strategy to advance California's commitment to building an equitable, resilient, and carbon-neutral future through climate-focused land management and. Pathways to 30x30 was generated in response to Governor Newsom's nature-based solutions Executive Order N-82-20, which aims to accelerate conservation of California's lands and coastal waters. California's 30x30 initiative is part of an international movement to protect nature across the planet.

Integrated Report

The State Water Board is soliciting surface water quality data and information to inform the compilation of the 2026 California Integrated Report. Data and information received may be used to identify impaired waters (i.e., waters not meeting water quality standards) and overall surface water quality conditions. Data and information submissions must be received by the State Water Resources Control Board no later than 12:00 p.m. noon on October 21, 2022.

The listing cycle for the 2026 Integrated Report focuses on surface waterbodies such as rivers, streams, lakes, reservoirs, estuaries, lagoons, bays, and ocean waters in the following areas of California:

- The regions of the North Coast, Lahontan, and Colorado River Basin Regional Water Boards.
- The San Joaquin River sub-area of the Central Valley Regional Water Board, which is defined as the San Joaquin River watershed and includes the mainstem of the San Joaquin River upstream of the legal boundary of the Sacramento-San Joaquin Delta and all surface waters tributary to the mainstem.

Seven States Modeling Workgroup Meeting Update

The seven basin states technical workgroup met via webinar on April 25th and May 9th to discuss Reclamation's on-going efforts to update Colorado River Simulation System (CRSS) and Colorado River Mid-term Modeling System (CRMMS) to support planning and decision-making in the Colorado River Basin. During the April 25th meeting, Reclamation discussed its efforts to model the proposed 2022 drought response actions for Lake Powell, which include DROA releases from Flaming Gorge reservoir and the downward adjustment of Glen Canyon releases for WY-2022, which are intended to prevent Lake Powell from reaching the critical level of 3,490 feet. During the May 9th meeting, Reclamation provided updates on its continued work to update CRSS to improve how Upper Basin demands are represented and provided an overview of a new accounting feature that will help provide support to DROA operations. Lastly, Reclamation reported that on April 20th, the CBRFC provided a revised forecast for the April CRMSS Ensemble Streamflow Prediction (ESP). Reclamation explained that there was an issue with how the forecast was generated, resulting in higher inflows into Lake Powell in the out-years (2023 to 2026). The May 2022 CRMMS projections will include the revised CBRFC forecast.

Washington, D.C. Report

Water Resources Development Act

The Senate Environment and Public Works Committee released its \$24.6 billion 2022 Water Resources Development Act (2022 WRDA) which was subsequently marked up and unanimously voted out of Committee on Wednesday.

This bill authorizes 36 new U.S. Army Corps of Engineers (Corps) feasibility studies and authorizes or modifies 21 projects for construction. For the first time since 2007, the bill authorizes modifications to, as well as new, environmental infrastructure projects.

Specifically, the 2022 WRDA would authorize the Corps to play a more active role alongside local sponsors to build and operate projects aimed at storing and conserving water. The package would also boost funding and establish a program to help improve water storage and conservation in the West and ensure that tribes can more easily clean up the more than 500 abandoned uranium mines on Navajo Nation reservation land.

The House is expected to release its version of the 2022 WRDA in the coming weeks and the Senate is expected to vote on its version sometime in the next few months. A final deal between the House and Senate is expected to be brokered and voted on in the fall.

FY 2023 House Energy and Water Appropriations Hearing

The House Energy and Water Appropriations Subcommittee reviewed budget proposals for the Army Corps of Engineers and the Reclamation for Fiscal Year 2023. As part of the hearing, Western lawmakers, including Rep. Anne Kirkpatrick (D-AZ), pressed administration officials to address looming shortages in the Colorado River Basin, pointing to record low levels in Lake Powell. Acting Commissioner David Palumbo said that his agency is still weighing how best to ensure sufficient water levels in the reservoir, reiterating the choices agency officials have highlighted in recent weeks. Acting Commissioner Palumbo added that the agency is also focused on increasing conservation efforts, examining new storage projects, water reuse projects and desalinization.

Biden Administration Reinstates NEPA Regulations

The Biden administration is taking steps to allow federal environmental reviews under the National Environmental Policy Act to assess impacts that extend beyond the immediate project — those “indirect” and “cumulative” impacts such as greenhouse gas emissions and a community’s aggregate pollution burden. This is the first step in a two-phase approach by the Administration to reverse NEPA changes made by the previous administration.

Funding for Rural America

The White House published a [guidebook](#) to help rural areas identify funding programs. This playbook is intended to help rural communities understand the available funding for infrastructure provided by the Bipartisan Infrastructure Law and other sources.

Desalination Research Advancement Act

Representatives Mike Levin (D-CA) and Nancy Mace (R-SC) introduced the “Desalination Research Advancement Act,” which would authorize up to \$20 million annually through FY-2026, up from its current \$5 million. The measure would also raise the annual cap on funding for academic research grants to \$15 million, up from the current \$1 million. The funding, spread over five years, includes \$250 million for water desalination projects.

STREAM Act

Senator Feinstein is still circulating a discussion draft of a western water bill that she is calling the STREAM Act and is seeking letters of support and potential edits from outside organizations. We expect the bill to be introduced later this month.
