**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION IX**
**75 Hawthorne Street**
**San Francisco, CA 94105-3901**

August 15, 2023

Amanda Erath, Colorado River Post-2026 Program Coordinator
Bureau of Reclamation
Attn: Post-2026 (Mail Stop 84-55000)
P.O. Box 25007
Denver, Colorado 80225

Subject: Notice of Intent to Prepare an Environmental Impact Statement on the Development of Post-2026 Colorado River Reservoir Operational Guidelines and Strategies for Lake Powell and Lake Mead

Dear Amanda Erath:

The Environmental Protection Agency has reviewed the June 16, 2023 Notice of Intent to prepare an Environmental Impact Statement on the development of Post-2026 Colorado River Reservoir operational guidelines and strategies for Lake Powell and Lake Mead. Our scoping comments are provided pursuant to the National Environmental Policy Act and our unique NEPA review authority under Section 309 of the Clean Air Act which requires EPA to review and comment publicly on the effects of all proposed federal actions requiring an EIS.

The beneficial uses of the Colorado River provide vital environmental, economic, and public health benefits for all Basin states. The NOI states that the Draft EIS will be designed to analyze alternatives that would replace expiring, interim operational guidelines (2007) and drought continency plans (2019), and inform parallel negotiations with Mexico.[1] Although there are significant resource constraints and technical and political barriers to allocating available water among competing human and environmental uses, the Notice of Intent states that Reclamation recognizes this monumental opportunity to develop long-term strategies for Colorado River operations while simultaneously addressing the current drought conditions and preparing for the potential of continuing low runoff and low reservoir conditions. While state laws and regulations govern water diversion and use, the Draft EIS provides an opportunity for Reclamation to provide leadership and establish a foundation for a system that more accurately aligns available water supplies with deliveries to provide increased stability to water users while protecting human health and safety and the environment.

The EPA supports Reclamation in identifying and analyzing alternatives to achieve these goals. We provide the following recommendations and others for the Draft EIS as described in the attached detailed comments.

[1] Reclamation is currently operating under the 2007 *Colorado River Interim Guidelines for Lower Basin Shortages and the Coordinated Operations for Lake Powell and Lake Mead*, 2019 *Drought Contingency Plans*, the 2021 *500+ Plan*, and the 2017 amendment (*Minute 323*) to the United States treaty with Mexico, each of which expire in 2026. The parallel Supplemental EIS process initiated for Near-term Operations from 2024 through 2026, has been suspended while Reclamation considers a seven-state alternative designed to protect infrastructure, add operating flexibility to conserve and store water in the system, and provide certainty to water users regarding the timing and volumes of potential water delivery reductions.

- Ensure appropriate inputs are used in a climate-oriented, science-based model that recognizes both hydrological and atmospheric trends, includes tools to increase the accuracy in measuring system losses (e.g., evaporative and soil moisture losses), and estimates water supply availability as accurately as possible for an appropriately long period of time.
- Include a strategy to increase management flexibility, enhance climate adaptation planning, and improve infrastructure resilience.
- Provide an Environmental Justice analysis that identifies and involves communities with environmental justice concerns who are most likely to have their water supplies severely diminished or reduced to zero as tied to the current priority system, and a discussion of ways to avoid, minimize or mitigate adverse and disproportionate impacts.
- Provide a summary of government-to-government collaboration and communications with Basin tribes, and the identification of long-term management or operational actions needed to account for unsettled, unresolved, or unfulfilled indigenous rights to Colorado River water.
- Discuss the ability of the U.S. to meet its treaty obligations to Mexico and identify current access challenges and potential to exacerbate border sanitation and water quality impacts.
- Analyze potential impacts to air quality, water resources, and other environmental resources resulting from changes to water management or deliveries, including in the Salton Sea region of California.

The EPA respectfully requests to be a cooperating agency[2] to provide support to Reclamation regarding the identification and analysis of issues to be addressed in the Draft EIS, particularly in the areas of EPA special expertise or jurisdiction by law regarding air and water resources and environmental justice. We appreciate the opportunity to provide scoping comments and look forward to continued coordination as a cooperating agency. Contact me at Truitt.Robin@epa.gov or (415) 972-4372, or the Environmental Review Branch manager, Jean Prijatel, at Prijatel.Jean@epa.gov or (415) 947-4167.

Sincerely,

*for* Jean Prijatel
Manager, Environmental Review Branch

Enclosure: Detailed Scoping Comments

Cc: via email: Bureau of Indian Affairs
United States Fish and Wildlife Service
National Park Service
Western Area Power Administration
United States Section of the International Boundary and Water Commission

[2] EPA's status as a cooperating agency does not affect our independent responsibilities under Section 309 of the Clean Air Act to review and comment publicly on all Draft Environmental Impact Statements. Participation as a cooperating agency does not imply endorsement of the proposed project.

The EPA understands that the Bureau of Reclamation has a complex role in Colorado River system-wide water delivery, storage, and hydropower production, and that Reclamation must consider the laws, policies, and actions of several other federal agencies, seven states, 30 tribes and Mexico in its decision-making. We note that the June 2022 *Request for Input on Development of Post-2026 Colorado River Operational Strategies* yielded a report[3] containing important and thoughtful suggestions for the National Environmental Policy Act planning effort, and we recognize Reclamation's additional efforts to voluntarily publish the report early in the NEPA process to enhance public awareness regarding the issues and recommendations related to this project. The report included public comments requesting robust, science-based operational guidelines and strategies that are holistic, sustainable, adaptive, resilient, and inclusive. The equitable apportionment of water shortages and the need to better approximate and balance Basin hydrological inputs and outputs were common themes. The public also asked Reclamation to address, in the Draft EIS, a broader range of management options or alternatives when compared to the present system. The EPA supports these requests and recommendations.

## STATEMENT OF PURPOSE AND NEED

The Draft Environmental Impact Statement for the post-2026 Colorado River Reservoir Operational Strategies should clearly identify the underlying purpose and need to which Reclamation is responding in proposing the alternatives. The EPA recommends that the Purpose and Need statement clearly address the storage and delivery of water supplies for irrigation, municipal and other beneficial uses throughout the upper and lower Colorado River Basin. Please also address low runoff conditions and severe reductions in reservoir levels, as well as the inadequacy of current guidelines to adjust to warmer and drier climatic conditions. The EPA recommends that Reclamation prioritize overall demand management as a central objective of the Draft EIS by aligning long-term guidelines, contingent or adaptative management plans, or contract conditions with basin-wide water supply availability.[4]

## ALTERNATIVES ANALYSIS

The EPA recommends that Reclamation evaluate, in detail, all reasonable alternatives that fulfill the project's purpose and need. We encourage Reclamation to explore alternatives, or elements of alternatives, beyond the agency's direct control, such as partnerships with states and other entities to decrease water use and align distributions with projected supply. The No Action Alternative should clearly describe the current operational, regulatory, and legal framework that govern water storage and deliveries. Disclose the potential long-term impacts of reduced water supplies on agricultural, municipal, and tribal uses, cessation of hydropower caused by dead pool, and other possible scenarios to fully inform the public about consequences of continuing the status quo. Address what changes to operations or modifications of contracts may be needed if consensus of the Basin states and Mexico cannot be reached before the current agreements expire at the end of 2026.

Potential action alternatives, based on hydrometeorological modeling, could include revisions to reservoir coordination, reapportionment of predicted shortages between basins, states or users, or modifications to drought and surplus guidelines. Present the environmental impacts of the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options

[3] Pre-Scoping Comment Summary Report, https://www.usbr.gov/ColoradoRiverBasin/documents/Post-2026_Pre-Scoping%20Comment%20Summary%20Final_Updated1.30.2023_508.pdf
[4] See, e.g., Colorado River Basin Project Act, 43 U.S.C. §§1501, 1551(b)(2)

by the decision makers and the public (40 CFR 1502.14(b)). Quantify the potentially adverse environmental impacts (and benefits) of each alternative to the greatest extent possible (e.g., production of hydropower; changes in water quality). Include resources directly impacted by potential project footprints within the geographic scope of analysis as well as the resources indirectly (or secondarily) impacted by any of the alternatives. Indirectly impacted areas may include downstream segments, source streams where water diversions would occur, and any other resource areas which may be affected by changes in water management or operations. Provide clear maps of the project area, including wetlands and regional water features, and conduct a wetland function analysis if there is any potential that an alternative could cause impacts.

## CLIMATE CHANGE

As stated in the scoping notice, Reclamation acknowledges that unprecedented drought has changed our understanding of Basin hydrology and reliance on the historical hydrological record has limited value in forecasting the future. Climate science predicts increases in both temperature and the likelihood of prolonged periods of drought, potentially resulting in less water available to the system. The EPA agrees with Reclamation that future policies must be tested across a wide range of potential future conditions, including drought sequences that are longer and more severe than those that have been observed historically. Absent such an approach, operational policies are likely to be insufficiently robust, resilient, and adaptable.

### *Modeled Scenarios*

For the Draft EIS, the EPA recommends that Reclamation simulate and present, as simply as possible, projected water budgets that account for water entering the system, water leaving the system (e.g., from consumptive use, trans-basin diversions, evaporation), and water moving through the system (stored in reservoirs or flowing in river reaches). While recognizing the inherent uncertainties associated with modeling future conditions, we recommend new or modified guidelines be applicable for the longest period of time possible to avoid emergency crisis responses that were not accounted for in the analysis.

Because the past hydrologic record may not represent future water availability, the EPA recommends that the Draft EIS analyze a range of possible future conditions and identify how this information is, or will be, incorporated into overall hydrologic modeling[5]. Clearly identify the methodologies, assumptions, and model inputs used for the assessments and discuss the rationale for using each model. The EPA also recommends that Reclamation consider other climate-related input data such as increases in the fraction of precipitation falling as rain rather than snow, increased frequency of extreme weather events resulting in heavy precipitation and flooding, dust accumulation on snow, and changing soil moisture levels. After establishing a consistent approach for measuring and reporting reservoir evaporation Basin-wide, assess the potential for increased evaporative losses and sedimentation and the combined effect of each on long-term reservoir levels and future energy production. Under each climate scenario presented in the Draft EIS, clearly identify how the alternative policies and operations identified have accounted for these losses using the most accurate science-based atmospheric and reservoir models available. Using these assumptions in hydrologic and environmental modeling (e.g., Colorado River Mid-term Modeling System), assess potential impacts from changes in the amount and timing of streamflow and identify how such changes could affect aquatic species and their habitats, riparian and wetland areas and functions, and climate-influenced water quality parameters like water temperature.

[5] We understand that Reclamation uses several models to simulate different components of operations, including the Colorado River Simulation System, a shortage allocation model, Intentionally Created Surplus, Generalized and Transmission Maximization Model, Colorado River Mid-term Modeling System.

***Climate Adaptation Strategies***

The EPA supports the inclusion of the analysis proposed in Reclamation's April 20, 2023 *Climate Change Adaptation Strategy*[6] (Strategy) for the Draft EIS in order to inform the alternatives, the public, and decision-makers. The Strategy includes objectives to increase water management flexibility; enhance climate adaptation planning; improve infrastructure resilience; and expand information sharing. The Strategy suggests increasing early-phase engagement with interested parties on climate change and inclusion of quantitative climate change analyses in environmental reviews.

In the Draft EIS, discuss Reclamation's commitment to continue coordination with states, tribes, local interested parties, and Mexico to implement policies, programs, and practices across all sectors – agricultural, municipal, and power – to develop strategies and operational guidelines that respond to climate variability and reduce overall demand. While increased flexibility will be needed to avoid crisis responses, the EPA recommends that Reclamation consider the need to make contingency and conservation measures or contract modifications mandatory or permanent to provide more certainty to water users. In the Draft EIS, analyze and disclose climate impacts and vulnerabilities, the efficacy of conservation and efficiency measures, and any management actions that have been taken to date to prevent or slow the progression of climate impacts. The EPA recommends that the Draft EIS clearly describe adaptation planning efforts, and how additional minimization, mitigation, or management measures are integrated into adaptation planning commitments to achieve sustainable development and provide access to water vital to public health and safety. The EPA recommends that the Draft EIS identify where additional delivery or aquifer recharge infrastructure is needed and whether maintaining or replacing aging infrastructure will improve water and energy efficiencies and protect public assets.

***Conservation Coordination and Funding Opportunities***

At a recent public meeting, Reclamation stated that post-2026 guidelines and plans need to be designed to expand participation in conservation and Basin-wide programs.[7] We agree and consider a full understanding of the various types of conservation and funding programs currently available to be central to long-term demand management. The EPA notes that the 2019 Drought Contingency Plan effective through 2026 gives the Secretary of the Interior authority to implement water conservation programs thereunder.[8] The EPA notes that there are a number of current and planned efficiency projects in the Lower Basin and recommends that the new guidelines incorporate these activities and projects that fulfill Reclamation's commitments or otherwise assist in drought response actions.

As part of demand management, the EPA recommends identifying and analyzing the effectiveness of conservation measures in both the Upper and Lower Basin states as commitments to increase efficiencies or otherwise reduce demand (e.g., covering canals with solar panels), even if such measures are beyond Reclamation's control, already underway, or still in development (e.g., Reclamation's initial funding of Colorado River Basin projects[9]). Highlight conservation as a tool to reduce demand as a stated need, as well as a purpose of the project to ensure that conservation is incorporated into all action

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[6] Climate Change Adaptation Strategy (usbr.gov), https://www.usbr.gov/climate/docs/2023ccas/CCAS2023Webversion.pdf

[7] Reclamation's Public Meeting on post-2026 operations, July 17, 2023

[8] Water conservation includes "contributions" made to the system under Drought Contingency Plan (DCP) agreement. Depending on Lake Mead's elevation, contributions allow users to store water in Lake Mead for later years, rather than being forced to use it immediately or lose their entitlement. Total shortages and DCP contributions are currently limited to 2.083 maf. Both the Upper Basin DCP and the Lower Basin DCP supplement and further the goals and operations in the 2007 Interim Guidelines.

[9] The Bipartisan Infrastructure Law Spend Plan Addendum provides project-specific allocations for the Colorado River Endangered Species recovery and conservation programs https://www.usbr.gov/bil/docs/spendplan-2023/Reclamation-BIL-Spend-Plan-Addendum-ESA%20WaterSMART12-27-2022.pdf

alternatives. Consider more advanced or aggressive levels of conservation or reallocations (e.g., those associated with smart growth principles or prioritizing municipal uses) within the alternatives analysis.

Because implementation of a variety of conservation actions, like increased reuse, will require an all-of-government approach to respond to changing hydrological conditions, the EPA recommends that the Draft EIS present a conceptual framework for continual engagement and participation of all seven states and Basin tribes to adopt innovative ideas, effective regulations and management practices, including an outline of action items needed to achieve common goals and objectives. In the Draft EIS, evaluate the effectiveness of existing programs and preserve those robust measures or mechanisms that are available to provide greater stability to water and energy systems. Clearly identify Reclamation's commitment to continue to initiate and participate in cooperative processes at the federal, state, tribal and local levels because Reclamation's actions alone will be insufficient to meet the needs of all water users. For example, the EPA encourages a partnership with the Natural Resources Conservation Service which could provide technical assistance and financing necessary to develop more efficient drinking water, wastewater, and energy systems, and implement rural development programs that reduce total water use, especially in the agricultural sector. Similarly, the USDA's Farm Service Agency has a Conservation Reserve Program that might provide a model for agricultural demand reduction, and the collaborative efforts of 100 organizations have resulted in a National Water Reuse Action Plan.[10]

Outline in the Draft EIS which types of state activities could be best supported by project operations. EPA recommends that the Draft EIS compile or reference existing actions that address supply-side and demand-side response actions in both the Upper and Lower Colorado River Basins. Moreover, EPA is aware that many communities are interested in potential sources of funding or grant opportunities for drought relief or infrastructure investments from the Inflation Reduction Act, Bipartisan Infrastructure Investment and Jobs Act, and Reclamation's WaterSMART Grants Program; information about these funding sources and interested communities would be helpful to include in the Draft EIS to foster future partnerships.

***Climate Change Guidance on Greenhouse Gas Emissions***

On January 9, 2023, the Council on Environmental Quality published interim guidance[11] to assist federal agencies in assessing and disclosing climate change impacts during environmental reviews. CEQ developed this guidance in response to Executive Order 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*. This interim guidance is currently in effect; CEQ indicated that agencies should use this interim guidance to inform the NEPA review for all new proposed actions and may use it for evaluations in progress, as agencies deem appropriate, to consider alternatives or help address comments raised through the public comment process. EPA recommends the Draft EIS apply the interim guidance to ensure robust consideration of potential climate impacts, mitigation, and adaptation issues.

EPA is aware that greenhouse gas emissions can be produced by dam and reservoir operations. In the Draft EIS, estimate these emissions, particularly the amount of methane emissions released by algal blooms and vegetative decomposition caused by reservoir fluctuations either seasonally or by hydropower-ramping cycles.[12] We recommend the details of the calculations of GHGs be included as an

[10] See online platform https://www.epa.gov/waterreuse/national-water-reuse-action-plan-online-platform?action=2.19
[11] https://www.federalregister.gov/documents/2023/01/09/2023-00158/national-environmental-policy-act-guidance-on-consideration-of-greenhouse-gas-emissions-and-climate
[12]EPA (2023). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2021. U.S. Environmental Protection Agency, EPA 430-R-23-002. https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2021.

appendix to the Draft EIS so that the assumptions are adequately documented and the calculations can be replicated.

Increases in GHG emissions could also result from alternative fossil fuel power sources if hydroelectric power is reduced or unavailable due to lower reservoir levels. Discuss how reservoir elevation changes at Lake Powell and Lake Mead affect hydropower production at the Glen Canyon, Hoover, Parker, and Davis powerplants, and which energy alternatives would likely replace these power sources should they lose capacity. Discuss how GHG emissions could increase if this power were to be replaced by fossil fuel energy sources. In 2021, the United States set a target to create a carbon pollution-free power sector by 2030 as an important part of reducing U.S. greenhouse gas emissions 50-52% from 2005 levels and achieving a net zero emissions economy no later than 2050.[13] It would be useful for the public to understand how hydropower helps to meet these targets and what the percentage of the power generated is, or could be, provided by the Glen Canyon, Hoover and Lower Basin dams within the 11-state Western Interconnection regional portfolio.[14]

The EPA recommends that relative changes in reservoir levels under each alternative be discussed in the context of reducing greenhouse gas emissions and achieving power sector targets. Discuss the current regional capacity to replace hydroelectric power with other renewable energy sources like solar or wind power.

## ENVIRONMENTAL JUSTICE ANALYSIS

The EPA recommends that the Draft EIS incorporate an environmental justice perspective into all facets of decision-making and strive to achieve water equity among all users through operations and funding consistent with Executive Order 14096 *Revitalizing Our Nation's Commitment to Environmental Justice for All* (2023). EO 14096 direct agencies to identify, analyze, and address actions related to any Federal regulation, policy, or practice that impairs the ability of communities with environmental justice concerns to achieve or maintain a healthy and sustainable environment. Further, it requires agencies to evaluate relevant legal authorities and, where available and appropriate, consider adopting or requiring measures to avoid, minimize, or mitigate disproportionate and adverse human health and environmental effects of Federal activities on communities with environmental justice concerns, to the maximum extent practicable.

### *Identifying Communities with EJ concerns*

To comply with this Executive Order, a relatively refined understanding of potential adverse impacts on a community-by-community basis is needed to provide decision-makers with the level of detail necessary to make an informed choice between alternatives and determine whether mitigation is available. Depending on the scope of the Draft EIS, EPA is aware of the challenges presented by large, impacted areas to initially identify communities with EJ concerns. We strongly encourage the use of *EJScreen*[15] when conducting EJ scoping efforts as the first step in highlighting locations that may be candidates for further analysis.

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Chapter 6, p. 6-115 begins the section on Flooded Lands and describes the methodology for calculating GHG emissions from flooded lands.

[13] https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/22/fact-sheet-president-biden-sets-2030-greenhouse-gas-pollution-reduction-target-aimed-at-creating-good-paying-union-jobs-and-securing-u-s-leadership-on-clean-energy-technologies.

[14] The Western Interconnection region includes Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

[15] Available at: https://ejscreen.epa.gov/mapper/; User Guide at https://ejscreen.epa.gov/mapper/help/ejscreen_help.pdf

When assessing large geographic areas, the EPA recommends considering individual block groups within the project area, in addition to an area-wide assessment, in recognition of the inherent uncertainties with screening level data and instances when the presence of EJ populations may be diluted (in large project areas or rural locations). This can help narrow down the areas that may warrant further consideration, analysis, or outreach. While county level reports can provide meaningful baseline information upon which to compare small geographies, county level reports should not be used to determine the presence, or absence, of areas of potential EJ concern.

The *EJScreen* tool combines demographic and environmental information that can help identify potential community vulnerabilities. *EJScreen* calculates EJ Indexes and displays data in color-coded maps and standardized reports (e.g., pollution sources, health disparities, climate change data*). EJScreen* uses two types of indexes: supplemental and standard. We strongly suggest using the standard EJ index, which includes people of color. The threshold map feature[16] in *EJScreen* can be used to identify areas with one or more *EJScreen* indicator(s) above the 80th Percentile.[17] The national (vs. state) index is most appropriate for this EJ analysis since project operations cross multiple state lines.[18]

For purposes of NEPA review, the EPA identified the 80th percentile filter as a starting point for identifying areas of potential concern in geographic areas showing one or more of the twelve EJ Indexes at or above the 80th percentile in the nation. The 80th percentile is not intended to designate an area as an "EJ community;" conversely, scores under the 80th percentile should not be interpreted to mean there are definitively no EJ concerns present or that other relevant vulnerabilities do not exist. Nor should the tool's standard data report be considered a substitute for conducting a full EJ analysis - scoping efforts should consider other factors and sources of information such as local knowledge, health-based information or proximity and exposure to environmental hazards when reasonably available.[19] A minority population does not need to meet a 50 percent standard if "the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis."[20] The NEPA Committee of the Federal Interagency Working Group on Environmental Justice has noted that, in some cases, it may be appropriate to use a threshold for identifying low-income populations that exceeds the poverty level.[21]

When identifying communities that may have environmental justice concerns, it is important to avoid labeling or defining communities as "Environmental Justice Communities" unless that is how they define themselves. EPA suggests using the term "communities with EJ concerns," as there may be urban, rural, or tribal areas that may have communities with environmental justice concerns within their boundaries, but not be representative of the community as a whole.

***Meaningful Engagement***

Once communities with EJ concerns are identified, Section 3 of EO 14096 directs agencies to seek out and encourage the involvement of communities with EJ concerns that are potentially affected by federal

[16] See basic information on threshold maps here: https://www.epa.gov/ejscreen/threshold-maps-ejscreen

[17] For details on the 80th percentile, see: https://www.epa.gov/sites/default/files/2021-04/documents/ejscreen_technical_document.pdf

[18] To download data for the *EJScreen* map data for threshold analysis, visit: https://www.epa.gov/ejscreen/download-ejscreen-data

[19] https://www.epa.gov/ejscreen/how-interpret-ejscreen-data, updated 6/26/23.

[20] Council on Environmental Quality. Environmental Justice: Guidance Under the National Environmental Policy Act. December 1997. Available at https://www.epa.gov/sites/production/files/2015-02/documents/ej_guidance_nepa_ceq1297.pdf.

[21] Federal Interagency Working Group on Environmental Justice & NEPA Committee. Promising Practices for EJ Methodologies in NEPA Reviews. March 2016. Available at: https://www.epa.gov/sites/production/files/2016-08/documents/nepa_promising_practices_document_2016.pdf.

activities and provide technical assistance tools and resources to assist in facilitating meaningful and informed public participation. Additionally, CEQ's EJ Guidance states "…agencies should elicit the views of the affected populations on measures to mitigate a disproportionately high and adverse human health or environmental effect…and should carefully consider community views in developing and implementing mitigation strategies. Any mitigation measures should reflect the needs and preferences of affected low-income populations, people of color, or Indian tribes to the extent practicable."

This guidance suggests that a comprehensive public involvement plan be developed including an environmental justice component that identifies and engages with disproportionately, adversely affected communities. The Environmental Justice Interagency Working Group's *Promising Practices for EJ Methodologies in NEPA Reviews*"[4] provides ways to both consider environmental justice concerns during environmental analyses and encourage effective participation by communities with environmental justice concerns. EPA recommends that Reclamation review the input received during pre-scoping efforts to identify any disparities in participation by these communities and flag for further outreach and involvement. *Promising Practices* suggests initiating meaningful engagement with communities early and often; providing potentially affected communities with an agency-designated point of contact; and convening project-specific community advisory committees, as appropriate.

In the Draft EIS, summarize information describing what was done to inform these communities about the project and the potential impacts it would have on their communities, what input was received from the communities, and how that input was utilized in the decisions that were made regarding the project. EPA notes that the participation of low-income, people of color, and tribal populations may require adaptive or innovative approaches to overcome linguistic, institutional, cultural, economic, historical, or other potential barriers to effective participation in the decision-making processes of Federal agencies under customary NEPA procedures.[22]

***Mitigation and Availability of Alternative Supplies***

Where alternatives may result in zero available project water for some water users, the EPA recommends that the Draft EIS present information on the relative availability, estimated costs, and affordability of alternative water sources for low-income communities or communities burdened by other EJ concerns as it is essential to making a reasoned choice among alternatives, minimizing, or mitigating adverse impacts, and protecting public health and safety.

Following our recommendation to use block groups to identify communities with EJ concerns, describe in the Draft EIS the measures taken by Reclamation to identify and analyze:

- which of the action alternatives could potentially result in substantial reductions or zero available water for these communities;
- the associated impacts from zero water availability in these communities;
- which disproportionately impacted communities have no water replacement sources or rely on deficient groundwater supplies;[23]
- the general, estimated costs for disproportionately impacted communities to utilize available alternative water sources; and
- whether these communities could reasonably be expected to afford the estimated replacement costs.

[22] CEQ's *Environmental Justice Guidance Under the National Environmental Policy Act* (1997)

[23] See e.g., Arizona Department of Water Resources Technical Memorandum for Phoenix Active Management Areas - 100-Year Assured Water Supply Projection: https://infoshare.azwater.gov/docushare/dsweb/Get/Document-76432/2023_Technical_Memorandum_Phx_AMA_100_Yr_Projection.pdf

Clearly identify potential mitigation measures to minimize impacts to communities with EJ concerns and provide monitoring and adaptive management plans to ensure that mitigation is effective.

***Cumulative Effects on Communities with EJ Concerns***

Executive Order 14096 clarifies that federal agencies should carry out environmental reviews in a manner that includes the cumulative effects of the proposed action on communities with environmental justice concerns. The NEPA definition of cumulative impact is one "… which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions" (40 CFR §1508.1(g)(3)). Although all communities are affected by, and vulnerable to, uncontrolled water shortages, it is important to evaluate prior actions and decisions that have resulted in disproportionate burdens.

EPA recommends detailing all past, present, and future actions that have or will contribute to significant cumulative effects on the communities with EJ concerns, discussed in the context of historical burdens or inequities and acknowledging previous reductions in water supplies.[24]

**TRIBES AND INDIGENOUS PEOPLE**

Meaningful engagement and collaboration with Basin tribes is crucial to the success of any future operational decisions and studies. EPA appreciates Reclamation's commitment to engaging and consulting with Basin tribes in a meaningful and transparent manner and its endeavor to fully consider tribal input and viewpoints.[25]

***Government-to-Government Consultations***

The EPA notes Executive Order 14096 clarifies that "[c]ommunities with environmental justice concerns exist in all areas of the country, including…within the boundaries of Tribal Nations." Although some issues overlap, the EPA recommends that the Draft EIS consider separating the discussion and analysis of tribal issues and concerns from the analysis of environmental justice, unless a specific tribe has requested that their concerns be addressed in the environmental justice section. Thoroughly describe the process and outcome of government-to-government consultation between Reclamation and tribes, including issues that were raised and how those issues were addressed in the development and selection of the proposed alternative and proposed mitigation. Section 2 of the *Presidential Memorandum on Uniform Standards for Tribal Consultation*[26] states "Consultation requires that information obtained from tribes be given meaningful consideration, and agencies should strive for consensus with tribes or a mutually desired outcome." The *Standards* present best practices and consultation policies that call on federal agencies to incorporate tribal treaty and reserved rights into agency decision-making with the goal of co-management and co-stewardship of federal land and water.

In the Long Term Experimental and Management Plan for the Glen Canyon Dam,[27] Reclamation and the National Park Service incorporated tribal information, perspectives, and analyses into multiple resource

[24] Even though prepared for a transportation agency, EPA recommends using the *Guidance for Preparers of Cumulative Impact Assessments* (2005) which has wide application for assessing cumulative effects in EJ analyses. Guidance for Preparers of Cumulative Impact Analysis | Caltrans; https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/cumulative-impact analysis

[25] Public hearing July 17, 2023 and https://www.usbr.gov/ColoradoRiverBasin/documents/7.D.Review_FinalReport_12-18-2020.pdf

[26] *Presidential Memorandum on Uniform Standards for Tribal Consultation* at https://www.whitehouse.gov/briefing-room/presidential-actions/2022/11/30/memorandum-on-uniform-standards-for-tribal-consultation

[27] https://www.usbr.gov/uc/progact/amp/ltemp.html#LTEMP

chapters. This was a unique opportunity to discuss tribal perspectives in a holistic and informative way and we encourage Reclamation to explore a similar approach, as appropriate, in the Draft EIS. To the extent such information is not sensitive or otherwise confidential, summarize in the Draft EIS the areas in which consensus with tribes regarding their treaty or reserved rights and mutually desired outcomes are achievable.

***National Historic Preservation Act and Executive Order 13007***

Consultation for tribal cultural resources is required under Section 106 of the National Historic Preservation Act. Historic properties under the NHPA are properties that are included in the National Register of Historic Places or that meet the criteria for the National Register. Section 106 of the NHPA requires a federal agency, upon determining that activities under its control could affect historic properties, to consult with the appropriate State Historic Preservation Officer/Tribal Historic Preservation Officer. Under NEPA, any impacts to tribal, cultural, or other treaty resources must be discussed and mitigated. Section 106 of the NHPA requires that Federal agencies consider the effects of their actions on cultural resources (36 Code Fed. Reg. 800).

Executive Order 13007, *Indian Sacred Sites* (May 24, 1996), requires federal land managing agencies to accommodate access to, and ceremonial use of, tribal sacred sites by its religious practitioners, and to avoid adversely affecting the physical integrity, accessibility, or use of sacred sites. It is important to note that a sacred site may not meet the National Register criteria for a historic property and that, conversely, a historic property may not meet the criteria for a sacred site.

The EPA recommends that the Draft EIS address the existence of Indian sacred sites in the Basin, as distinguished from Section 106 of the NHPA, and discuss how Reclamation would avoid adversely affecting the physical integrity, accessibility, or use of sacred sites, if they exist. Summarize all coordination with tribes and with the SHPO/THPO, including identification of National Register of Historic Places eligible sites, and whether Cultural Resource Management Plans need be developed.

***Effect of Historic Inequities on Tribal Water Rights***

Executive Order 14096 directs agencies to identify, analyze, and address historical inequities and systemic barriers related to any Federal regulation, policy, or practice that impairs the ability of tribes who may have environmental justice concerns to achieve or maintain a healthy and sustainable environment. Tribes have been historically excluded from river governance, apportionment decisions and federal developments and to this day tribal water rights remain unresolved, inaccessible, or unquantified.

For example, the Central Arizona Project is the single largest provider of water to tribal communities in the Colorado River system but has very junior (4th priority) water rights. [28] Because tribal water rights are tied to the CAP priority date and delivery system, available water could be reduced to zero depending on shortage levels.

EPA recommends acknowledging historic and present inequities or systemic barriers to indigenous water rights. Discuss policies, programs or funding opportunities specifically designed to correct or remove inequities or barriers; provide tribes with more clarity; maintain or construct infrastructure for the delivery of or access to Colorado River water for tribal use; or develop replacement water resources.

[28] See e.g., Central Arizona Project. 2023. Tribal Water Rights, https://www.cap-az.com/about/tribal-water-rights/ and 2007 Interim Guidelines Final Environmental Impact Statement (Reclamation 2007).

## INTERNATIONAL CONSIDERATIONS

Tijuana, Mexico is particularly vulnerable to reduced water allocations due to drought since more than 90% of its water supply is sourced from the Colorado River. Mexico's permanent 3 percent reduction (45,000 acre-feet) to their annual allocation of 1.5-million-acre feet of water took effect in 2022 in accordance with Minute 323 signed in 2017. As a result, there is high interest at all levels of the Mexican government in pursuing reuse of treated wastewater to diversify the city's water supply, keep up with demand, and increase wastewater treatment.

Under the Statement of Intent and Minute 328 signed in 2022, the EPA committed $10M from the Border Water Infrastructure Grant Program (BWIP) towards a project that would pipe effluent from two wastewater treatment plants in Tijuana (La Morita and Arturo Herrera) upstream of the Rodriguez Reservoir for indirect reuse. This project is a high priority for Mexico and would be one of the first projects of its kind in the country. Once the feasibility studies and design are complete (expected end of 2024), Mexico would need to secure the match to the EPA's BWIP funds to finance the construction, which would take several years to complete. The Bureau of Reclamation could provide funding for water conservation projects in Mexico in exchange for a one-time allotment of Colorado River water under Minute 323, "Extension of Cooperative Measures and Adoption of a Binational Water Scarcity Contingency Plan in the Colorado River Basin." Funding from the U.S. could support effluent reuse projects, including projects at San Diego-Tijuana if there were a Colorado River benefit.

We recommend Reclamation include discussions in the Draft EIS about reuse projects and funding such projects to reduce dependence on Colorado River water in Mexico. Analyze impacts from cuts and transfers to Mexico on the Colorado River delta, border sanitation and water supply. Consider how the alternatives may adversely and disproportionately affect growing transboundary communities and the movement of transboundary populations with potential environmental justice concerns.

## BIOLOGICAL RESOURCES

In the Draft EIS, the EPA recommends that Reclamation identify all proposed/candidate and listed threatened and endangered species and critical habitat (final or proposed) that might occur within the project area. Identify and quantify which species or critical habitat might be directly, indirectly, or cumulatively affected by each alternative and mitigate impacts to these species. Consider operational releases that prioritize flows during critical times for biological processes and meet critical flow needs for both ESA-listed species and habitats.

In addition, discuss the impacts of the alternatives on sensitive or ecologically diverse areas that depend on Colorado River water, including consistency with the Lower Colorado River Multi-Species Habitat Conservation Plan and the effects upon the Salton Sea. Address the prolonged drought that has prompted major reductions in water deliveries to the Imperial and Coachella Irrigation Districts and the transfer or sale of their water supplies away from agriculture toward cities in coastal southern California (Los Angeles and San Diego). Describe the ecological and temporal ramifications of any proposed reductions in water on migratory birds, fish, and wildlife populations, and how reductions may affect state and federal efforts to create or restore wetlands and wildlife habitat in the area. Address how restoration projects, as well as proposed lithium development in the Salton Sea region, may require augmentation of water supplies from the Pacific Ocean, the Sea of Cortez, or from reuse in Tijuana, Mexico and what direct, indirect, and cumulative effects may be attributed to imported water into the system.

### *Riparian and Aquatic Ecosystems*

We recommend that the Draft EIS assess the potential direct, indirect, and cumulative effects upon existing aquatic resources which may include changes in surface and groundwater hydrology supporting

streams and wetlands or functional conversion of wetland types. Describe how the project would comply with Executive Order 11990, *Protection of Wetlands*, including how wetlands would be identified and avoided. To the extent adverse effects to wetlands are unavoidable, discuss the loss or degradation of wetland functions and values, the assessment method used to make these determinations, and how such impacts would be minimized, offset, or mitigated.

If wetlands on federal lands are going to be impacted, EPA recommends offsetting mitigation based on a functional replacement approach rather than acre-to-acre replacement to ensure that the specific wetland functions are replaced in an ecosystem. The EPA notes that conversion from one type of wetland to another will likely result in the loss or degradation of certain wetland functions, but that any assumptions regarding wetland quality and function should be field verified using an assessment method appropriate for the region. EPA further recommends post-2026 monitoring for potentially adverse effects to wetland functions.

Periodic high flows reduce adverse impacts and are critical to maintaining the health and function of the ecosystem of the Colorado River. These high flows mimic the natural floods and geomorphic processes that are blocked by the dams, improve both in-stream and riparian habitat for aquatic and terrestrial wildlife, reduce invasive plant populations, and increase recreational opportunities along the Colorado River through Grand Canyon National Park. The existing Long Term Experimental and Management Plan (LTEMP)(2016) provides a framework for adaptively managing Glen Canyon Dam operations through 2036 consistent with the Grand Canyon Protection Act of 1992 (GCPA) and other provisions of applicable federal law. Within the area affected by Lake Powell's operations, the LTEMP sets out options between non-flow, minimum flow thresholds, and high flow experimental and management actions that meet the GCPA's requirements and minimize impacts on resources within the Colorado River ecosystem, including those of importance to tribes. The EPA recommends the analysis of alternatives that would allocate sufficient water in Lake Powell to continue LTEMP releases and High-Flow Events.

***Direct, Indirect and Cumulative Effects***

Analyze the direct, indirect (secondary), and cumulative impacts to the aquatic and other resource characteristics of the project area, including impacts to water quality and water quantity; stream channel morphology; riparian function; fish and invertebrate assemblages; threatened, endangered and/or sensitive species and their habitat; and other resources within the geographic scope of analysis. Additionally, we recommend that the impact analysis consider the potential for non-linear responses, where incremental impacts of the proposed project may result in non-incremental changes in environmental conditions.

In the Draft EIS, include the following analyses or descriptions of potential project effects.

- Analyze the direct, indirect, and cumulative impacts to all aquatic resources including, but not limited to wetlands including fens, streams, rivers, vernal pools within the geographic scope of potential impacts, including impacts to wetlands from changes in hydrology. Include in the analysis the indirect impacts to wetlands from loss of hydrology from water diversions and transfers.
- Assess impacts associated with reservoir fluctuations and periodic inundation with quantification of lost aquatic and riparian habitat areas.
- Provide detailed hydrologic analysis of existing stream conditions using representative datasets to enable an adequate assessment of the project's potential geomorphic and biological impacts. At a minimum, include wet, average, and dry year analyses at a daily time-step wherever

possible. Consider potential influences of temperature and precipitation trends on future hydrology.
- Analyze impacts to flow regime and stream morphology, with an emphasis on the implications of these changes on sediment transport, channel complexity, channel maintenance, aquatic habitat availability and life cycle requirements.
- Review various water importation schemes, including transporting water from Sea of Cortez, Pacific Ocean, and reuse activities in Tijuana (all proposed for Salton Sea restoration in the absence of Colorado River allocations), and analyze the effects on the lower and upper Basin states.

**WATER QUALITY**

Removal of water from streams or storing large volumes of water in reservoirs can have substantial effects on water quality on those waters as well as downstream waters. Analyze any potential for the project to cause or contribute to exceedances of Water Quality Standards and/or increase pollution above allowable increments (i.e., excessive degradation of available assimilative capacity) within and downstream of the project area. Relevant WQS likely will include dissolved oxygen, temperature, pH, metals, nutrients, algal growth, bacterial concentrations, total suspended solids, total dissolved solids, turbidity and total dissolved organic carbon.

If exceedances of WQS and/or significant reductions in assimilative capacity are possible, it is important that the Draft EIS characterize the spatial extent, magnitude, frequency, and duration of effects. A change in any of the WQS parameters caused by the alternative operations and fluctuating water levels may influence water quality, fisheries, or recreational use (including fish consumption advisories) within or downstream of the reservoirs. The EPA recommends characterizing the frequency and magnitude of water level fluctuations within the reservoir and analyzing the potential impacts associated with these fluctuations.

Shoreline processes, including frequently changing reservoir levels that vary month to month and year to year, will provide a constant mechanism by which soil in the new area of inundation can be eroded into the reservoirs, contributing to suspended sediments and turbidity. To predict potential nutrient-related impacts, we recommend that any predictive reservoir water quality modeling ensures that the full variability and dynamics of growing season nutrient cycling, algal blooms, and reductions in dissolved oxygen are adequately represented. Since algal blooms and nutrient cycle dynamics significantly change within hours in any growing season day, a high frequency timestep is necessary to accurately predict any project-related impacts (e.g., algal blooms are in a $\leq$ 12-hour timestep). Therefore, it is fundamental that the calculations use a high frequency timestep, account for dissolved oxygen concentrations throughout the water column, and consider daily minimums.

Specifically, where a project alternative modifies flows through operational changes, increases the diversion of water, or introduces new water sources, the EPA recommends that the Draft EIS's water quality analysis:

- Compare current water quality and projected post-2026 water quality against applicable NPDES or state water quality standards.
- If the EIS identifies the potential for the selected alternative to cause or contribute to violations of water quality standards, identify mitigation or operational controls to avoid such impacts. If it proves difficult to determine the system's potential to exceed water quality standards, EPA recommends implementing a water quality monitoring program be performed before, during and after project implementation.

- Account for changes in background water quality for water quality modeling and when making determinations of assimilative capacity.
- Identify reaches with existing water quality impairments per State Clean Water Act Section 303(d) lists, draft or established total maximum daily loads (TMDLs), and potentially affected dischargers to ensure the project will avoid contributing to existing impairments.
- Identify Source Water Protection areas and explain how the project would be consistent with Source Water Protection planning measures, including groundwater.
- Identify potentially affected drinking water treatment providers with intakes on reaches with predicted water quality changes and describe the potential need to change treatment locations or processes.
- Identify wastewater treatment plants discharging to reaches with predicted water quality changes. Evaluate current and post-project water quality at a critical flow condition and expected changes to assimilative capacity or permit limits for any NPDES or state discharge permits.
- Discuss the negative impacts that proposed operational strategies, such as fluctuating reservoir levels, could have on water quality, and the benefits of sediment resuspension and transport on riparian and recreational resources.
- Evaluate where agricultural irrigation in the project area is most likely to increase or decrease as a result of the selected alternative, describe the water quality effects related to return flows in receiving waters, and any associated impacts to water treatment facilities and discharge permittees.

The EPA recommends providing details about mitigation for any anticipated water quality effects in the Draft EIS to the extent practicable.

***Groundwater***

The EPA anticipates that new guidelines and operations could potentially impact groundwater resources that are interconnected and/or dependent upon the Colorado River in both positive and negative ways. In assessing the potential impacts of each alternative on connected groundwater systems in the project area, the EPA recommends that the Draft EIS examine the potential for changes in the volume, storage, flow, and quality of groundwater using available characterization of groundwater resources and groundwater use. If project operations could potentially result in any adverse impacts to groundwater resources, we recommend considering alternatives, mitigation measures or operational controls that would avoid, reduce, or minimize impacts on groundwater.

## AIR QUALITY

After establishing existing environmental conditions in the affected airsheds using attainment of National Ambient Air Quality Standards as a baseline, the EPA recommends evaluating and disclosing any air quality impacts associated with project alternatives and, if necessary, detailing mitigation steps that will be taken to minimize associated adverse impacts.

The EPA is particularly concerned about exacerbating air quality problems around the Salton Sea. As mentioned above, climate change coupled with diminished agricultural return flows at its northern and southern edges could expose more than 11,000 acres of playa salt flats to wind erosion by 2030 with a 3-foot decline in water levels. Blowing dust, laden with concentrated waste and agricultural runoff, not only affects the ability to meet air quality standards but could also affect the respiratory health of people throughout the Imperial Valley, many of whom reside in disadvantaged and border communities. Discuss the air quality impacts of any operational changes that would reduce deliveries to the Salton Sea region, including a robust analysis of impacts to public health and safety of residents. Identify other areas that would have similar impacts throughout the project area.

## CUMULATIVE AND INDIRECT IMPACTS

The cumulative impacts analysis should identify how resources, ecosystems, and communities in the project have already been, or would be, affected by past, present, or future activities in the project area. These resources should be characterized in terms of their response to change and capacity to withstand stresses. Trends data should be used to establish a baseline for the affected resources, to evaluate the significance of historical degradation, and to predict the environmental effects of the project components.

For the cumulative impacts assessment, we recommend focusing on resources of concern or resources that are "at risk" and/or are significantly impacted by the proposed project before mitigation. For this project, conduct a thorough assessment of the cumulative impacts to aquatic, biological, and tribal resources.

The EPA recommends that the Draft EIS identify which resources are analyzed, which ones are not, and why. NEPA requires the Draft EIS consider the following for each resource analyzed:

- Identify the current condition of the resource as a measure of past impacts.
- Identify the trend in the condition of the resource as a measure of present impacts. For example, the health of the resource is improving, declining, or in stasis.
- Identify all on-going, planned, and reasonably foreseeable projects in the study areas, which may contribute to cumulative impacts.
- Identify the future condition of the resource based on an analysis of impacts from reasonably foreseeable projects or actions added to existing conditions and current trends.
- Assess the cumulative impacts contribution of the proposed alternatives to the long-term health of the resource and provide a specific measure for the projected impact from the proposed alternatives.
- When cumulative impacts are identified for a resource, propose mitigation.
- Disclose the parties that would be responsible for avoiding, minimizing, and mitigating those adverse impacts.

Identify opportunities to avoid and minimize impacts through changes to project elements or mitigation, including working with other entities that may have authority or responsibility for these measures. Although some mitigation measures may be outside the jurisdiction of Reclamation, describing them in the EIS would serve to alert other agencies or officials who can implement these extra measures (Council on Environmental Quality's 40 Questions #19(b)).