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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF ARIZONA

Save the Colorado, et al., Plaintiffs, v. United States Department of the Interior, et al., Defendants.	No. CV-19-08285-PCT-MTL **ORDER**

This case concerns the Glen Canyon Dam Long-Term Experimental and Management Plan (the "LTEMP"), which administers the monthly, daily, and hourly water releases from the Glen Canyon Dam (the "Dam" or "Glen Canyon Dam").

Plaintiffs Center for Biological Diversity, Living Rivers, and Save the Colorado (collectively, "Plaintiffs" or "Save the Colorado") filed a motion for summary judgment. (Doc. 92.) Defendants are the United States Department of Interior and the Secretary of the Interior (collectively, "Department" or "Federal Defendants"), and they filed a motion for judgment on the pleadings or, alternatively, a cross-motion for summary judgment. (Doc. 104.) Intervenors Central Arizona Water Conservation District, Metropolitan Water District of Southern California, and Southern Nevada Water Authority (collectively, "Lower Basin Contractors") joined in this motion. (Doc. 111.) Intervenors Arizona Department of Water Resources[1] and the States of California, Colorado, Nevada, Utah, and

[1] "The State of Arizona acts through the Director of the Arizona Department of Water Resources for purposes of '[prosecuting] and defend[ing] all rights, claims and privileges of this state [of Arizona] respecting interstate streams.'" (Doc. 28 at 3) (citing Ariz. Rev. Stat. § 45-105(A)(9)).

Wyoming (collectively, the "State Intervenors"), filed a cross-motion for summary judgment.[2] (Doc. 115.) All parties seek judgment on the merits on all claims. The motions are now fully briefed (Docs. 111, 112-2, 113, 115, 118, 121, 126, 128).

For the reasons listed below Plaintiffs' motion for summary judgment (Doc. 92) is denied, the Federal Defendants' motion for judgment on the pleadings is converted to a cross-motion for summary judgment (Doc. 104) and is granted, and the State Intervenors' cross-motion for summary judgment (Doc. 115) is granted.

I. BACKGROUND

A. Factual Background

The Plaintiffs brought this action on October 1, 2019, against the Department to invalidate its Record of Decision ("ROD") and underlying Final Environmental Impact Statement ("FEIS") for its management plan of the Dam. (Doc. 93 ¶ 1.) This plan, called the LTEMP, provides "a framework for adaptively managing Glen Canyon Dam operations over the next 20 years consistent with the Grand Canyon Protection Act of 1992 (the 'GCPA') and other provisions of applicable federal law." (Doc. 106 ¶ 1; Doc. 119 ¶ 1; AR003655). Plaintiffs allege various National Environmental Policy Act ("NEPA") and the Administrative Procedure Act ("APA") violations. This Order provides a background of the facts, procedural history, and applicable law below before reaching the merits.

1. The Colorado River and The Dam

The Colorado River Basin is a crucial hydrological system that connects seven states and serves as a critical source of water for the American West. (Doc. 93 ¶ 3; Doc. 107 ¶ 3.) The Colorado River flows for 1,450 miles; it originates in the Rocky Mountains of Colorado and ends at the Gulf of California in Baja, Mexico. (Doc. 93 ¶ 3; Doc. 107 ¶ 3.) The Colorado River "not only serves as a source of municipal water for over 40 million people in the surrounding states, but it is also considered the 'lifeblood' of twenty-two federal Native American Tribes as well as the numerous natural areas through which it runs." It "is used to irrigate of nearly 5.5 million acres of agricultural lands within the

[2] The State of New Mexico, through the New Mexico Interstate Stream Commission, filed an amicus brief. (Docs. 112, 117.)

Basin." (Doc. 93 ¶ 3; Doc. 107 ¶ 3.) The Dam was completed by the Bureau of Reclamation ("Reclamation") in 1963 and is located just south of the Utah-Arizona border on the Colorado River. (Doc. 93 ¶ 4; Doc. 107 ¶ 4.) The damming of Glen Canyon created Lake Powell, which is a "water storage reservoir with a maximum storage capacity of 24.3 million acre-feet (maf), making it the largest unit of the Colorado River Storage Project." (Doc. 93 ¶ 4; Doc. 107 ¶ 4.)

2. The LTEMP

The Department, acting through its sub-agencies the Reclamation and the National Park Service ("NPS"), developed and implemented a new LTEMP for operations of Glen Canyon Dam. (Doc. 93 ¶ 7; Doc. 107 ¶ 7.) The LTEMP and its FEIS were "created in response to the need to incorporate scientific information developed since the 1996 ROD into Department decisions on the management of Glen Canyon Dam and the surrounding area" and "to identify the potential environmental effects of implementing the proposed federal action." (Doc. 93 ¶ 7; Doc. 107 ¶ 7.) "The LTEMP FEIS analyzes alternative-specific monthly, daily, and hourly releases from Glen Canyon Dam." (Doc. 106 ¶ 4; Doc. 119 ¶ 4.) Additionally, "the FEIS purports to identify and analyze the environmental issues and consequences associated with taking no action, as well as a range of alternatives for implementing the proposed federal action." (Doc. 93 ¶ 7; Doc. 107 ¶ 7.)

The LTEMP provides "specific options for dam operations, non-flow actions, and appropriate experimental and management actions that will meet the 1992 GCPA's requirements and minimize impacts on resources within the area affected by dam operations, commonly referred to as the Colorado River Ecosystem, including those of importance to American Indian Tribes." (Doc. 106 ¶ 1; AR003655) (footnote omitted).

The purpose and need statement for the LTEMP

> . . . is to provide a comprehensive framework for adaptively managing Glen Canyon Dam over the next 20 years consistent with the GCPA and other provisions of applicable federal law.
>
> The proposed action will help determine specific dam operations and actions that could be implemented to improve

> conditions and continue to meet the GCPA's requirements and to minimize—consistent with law—adverse impacts on the downstream natural, recreational, and cultural resources in the two park units, including resources of importance to American Indian Tribes.
>
> The need for the proposed action stems from the need to use scientific information developed since the 1996 ROD to better inform [the Department's] decisions on dam operations and other management and experimental actions so that the Secretary may continue to meet statutory responsibilities for protecting downstream resources for future generations, conserving species listed under the Endangered Species Act (ESA), avoiding or mitigating impacts on *National Register of Historic Places* (NRHP)-eligible properties, and protecting the interests of American Indian Tribes, while meeting obligations for water delivery and the generation of hydroelectric power.

(Doc. 106 ¶ 2; Doc. 119 ¶ 2; AR003659–60).

The LTEMP provides a framework for "monthly releases" and "for adaptively managing the Dam for the next 20 years." (AR000055; Doc. 93 ¶ 7; Doc. 107 ¶ 7.) The LTEMP, however, "does not address annual water releases from Glen Canyon Dam." (Doc. 106 ¶ 5; Doc. 119 ¶ 5.) Specifically,

> Under the LTEMP, water will continue to be released in a manner that is fully consistent with and subject to the Colorado River Compact, the Upper Colorado River Basin Compact, the Water Treaty of 1944 with Mexico, the decree of the Supreme Court in *Arizona v. California*, and the provisions of the Colorado River Storage Project Act of 1956 (CRSPA) and the Colorado River Basin Project Act of 1968 that govern allocation, appropriation, development, and exportation of the waters of the Colorado River Basin, and consistent with applicable determinations of annual water release volumes from Glen Canyon Dam made pursuant to the Long-Range Operating Criteria for Colorado River Basin Reservoirs [(the "LROC")], which are currently implemented through the 2007 Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead.

(Doc. 106 ¶ 5; Doc. 119 ¶ 5; AR003658–59).

The LTEMP lists nine objectives. Two of them, which are relevant here, include: (1) developing an operating plan that adheres "to the Colorado River Compact, the Upper Colorado River Basin Compact, the Water Treaty of 1944 with Mexico, the decree of the U.S. Supreme Court in *Arizona v. California*, and the provisions of CRSPA and the Colorado River Basin Project Act of 1968," as well as "the Criteria for Coordinated Long-Range Operations of Colorado River Reservoirs which are currently implemented by the 2007 Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead," and (2) "to ensure consistency 'with applicable determinations of annual water release volumes from Glen Canyon Dam made pursuant to the LROC for Colorado River Basin Reservoirs, which are currently implemented through the 2007 Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead.'" (Doc. 106 ¶¶ 6,7; Doc. 119 ¶¶ 6,7.)

The LTEMP describes that dam operations are affected by "physical factors, such as reservoir elevation, annual runoff, and discharge capacity." (Doc. 106 ¶ 9; Doc. 119 ¶ 9.) Dam operations "are also constrained by legal and institutional factors specified in federal laws, interstate compacts, international treaties, and Supreme Court decisions . . . [c]riteria and guidelines for annual operations are contained in the LROC and 2007 Interim Guidelines as determined by the Secretary, with participation by the Basin States." (Doc. 106 ¶ 9; Doc. 119 ¶ 9.)

3. The LTEMP and the 2007 Interim Guidelines

Important for this action, the LTEMP states that "[t]he annual amount of water released under the LTEMP will be determined by the LROC, which is currently implemented through the 2007 Interim Guidelines until 2026." (Doc. 106 ¶ 11; Doc. 119 ¶ 11.) "The LTEMP EIS assumes the annual volumes would be determined in accordance with the LROC and evaluates the effects on resources from the management of monthly, hourly, and daily releases from Glen Canyon Dam under various alternatives." (Doc. 106 ¶ 11; Doc. 119 ¶ 11.) The LTEMP explains that the 2007 Interim Guidelines "would be used each year (through 2025 for water supply determinations and through 2026

for reservoir operating decisions) in implementing the LROC for the Colorado River reservoirs pursuant to the 1968 Colorado River Basin Project Act" and its adoption "did not modify the authority of the Secretary to determine monthly, daily, hourly, or instantaneous releases from Glen Canyon Dam." (Doc. 106 ¶ 10; Doc. 119 ¶ 10; AR003687–88.) LTEMP FEIS explains that "[a]nnual water release volumes are established pursuant to the LROC, which is currently implemented through the Interim Guidelines for Coordinated Operations of Lake Powell and Lake Mead (Reclamation 2007a)." (Doc. 106 ¶ 12; Doc. 119 ¶ 12; AR003811.)

The 2007 Interim Guidelines "define four operational tiers for annual releases from Glen Canyon Dam: '(1) the Equalization Tier, (2) the Upper Elevation Balancing Tier, (3) the Mid-Elevation Release Tier, and (4) the Lower Elevation Balancing Tier.'" (Doc. 106 ¶ 12; Doc. 119 ¶ 12; AR003811.) "These annual releases are based on 'elevations of Lake Powell and Lake Mead.'" (Doc. 106 ¶ 12; Doc. 119 ¶ 12; AR003811.) "Certain tiers, including the Lower Elevation Balancing Tier, allow annual releases to be 'adjusted each month based on forecast inflow and projected September 30 elevations at Lakes Powell and Mead.'" (Doc. 106 ¶ 12; Doc. 119 ¶ 12; AR003811.)

The graphic below illustrates the range of the Dam's "annual releases under the 2007 Interim Guidelines":

Lake Powell Operational Tiers
(subject to April adjustments or mid-year review modifications)

Lake Powell Elevation (feet)	Lake Powell Operational Tier	Lake Powell Active Storage (maf)
3,700		24.32
	Equalization Tier equalize, avoid spills or release 8.23 maf	
3,636 – 3,666		15.54 – 19.29
(see table below)	**Upper Elevation Balancing Tier** release 8.23 maf; if Lake Mead < 1,075 feet, balance contents with a min/max release of 7.0 and 9.0 maf	(2008 – 2026)
3,575		9.52
	Mid-Elevation Release Tier release 7.48 maf; if Lake Mead < 1,025 feet, release 8.23 maf	
3,525		5.93
	Lower Elevation Balancing Tier balance contents with a min/max release of 7.0 and 9.5 maf	
3,370		0

(Doc. 106 ¶ 14; Doc. 119 ¶ 14; AR Ref-056526.)

"Annual releases and the associated monthly releases" from the Dam "are affected by hydrologic uncertainty" and "changing hydrologic conditions can change the annual release from Glen Canyon Dam under certain conditions." (Doc. 106 ¶ 15; Doc. 119 ¶ 15; AR004061.) Further, the 2007 Interim Guidelines "describe the lower elevation balancing tier" as the following: "In Water Years when the projected January 1 Lake Powell elevation is below 3,525 feet, the Secretary shall balance the contents of Lake Mead and Lake Powell, but shall release not more than 9.5 maf [million-acre-feet] and not less than 7.0 maf from Lake Powell in the Water Year." (Doc. 106 ¶ 17; Doc. 119 ¶ 17; AR Ref-056529.)

4. The LTEMP Alternatives

When developing the various alternatives to be considered, the Federal Defendants first considered "the proposed action (i.e., development of an LTEMP), purpose and need of the LTEMP, and the objectives and resource goals of the LTEMP" and when "these items were defined, NPS and Reclamation worked to develop a set of alternatives that represented the full range of reasonable experimental and management actions; met the purpose, need, and objectives of the proposed action; and were considered within the constraints of existing laws, regulations, and existing decisions and agreements." (AR003694.) To assist in the alternative development process, "formal decision analysis tools were also used for the LTEMP [Draft Environmental Impact Statement]," which are "useful because the LTEMP concerns the management of a very complex system with many—possibly competing—resources of interest, and it involves uncertainty about the relationships between management strategies and the responses of resources to those strategies." (AR003696.) More specifically, a "structured decision analysis process for LTEMP alternative development and evaluation was facilitated by Dr. Michael Runge of the [U.S. Geological Survey] to obtain multiple stakeholder viewpoints," which "was accomplished through a series of workshops and webinars involving LTEMP project managers; [Environmental Impact Statement] analysts; technical representatives from FWS, BIA, WAPA, Arizona Department of Water Resources, and AZGFD; and other

AMWG stakeholders." (*Id.*)[3]

The LTEMP FEIS describes seven alternatives that were developed and considered during this process. (Doc. 106 ¶ 18; Doc. 119 ¶ 18; AR003693). A description of the alternatives are as follows:

> Alternative A (the No Action Alternative) represents continued implementation of existing operations and actions as defined by existing agency decisions. Alternatives C, D (the preferred alternative), F, and G were developed by Department of the Interior with input from other federal agencies, state agencies and tribes. Alternative B was submitted by the Colorado River Energy Distributors Association (CREDA). Alternative E was submitted by the Colorado River Basin States Representatives from Arizona, California, Colorado, Utah, Nevada, New Mexico, and Wyoming, and the Upper Colorado River Commission in response to an offer made by the [Department] in April 2012 to consider alternatives submitted by Cooperating Agencies and Adaptive Management Working Group (AMWG) members.

(Doc. 106 ¶ 18; Doc. 119 ¶ 18; AR003693) (internal citations omitted).

With respect to all the alternatives listed above, "[t]he [2007] Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead (Reclamation 2007a), together with existing laws and regulations, were used to establish 'sideboards' that constrain the breadth and nature of flow and non-flow actions that were considered in the LTEMP alternatives." (Doc. 106 ¶ 19; Doc. 119 ¶ 19; AR003699.)

Apart from those listed above, there were other alternatives that were "eliminated from consideration or further analysis because [they] did not meet the purpose, need, or objectives of the proposed action; clearly violated existing laws or regulations; or lacked enough specifics to be developed into a full and unique alternative." (AR003694.) These include all three alternatives that Plaintiffs proposed.

[3] "FWS" is short for U.S. Fish and Wildlife Service; "BIA" means Bureau of Indian Affairs; "WAPA" means Western Area Power Administration; "AZGFD" stands for Arizona Game and Fish Department; and "AMWG" means Adaptive Management Work Group. (AR003517–18.)

5. Plaintiffs' Alternatives Were Eliminated from Detailed Analysis

Plaintiffs proposed an alternative called "Decommissioning Glen Canyon Dam," which was not carried forward for detailed analysis because it "proposed either removing Glen Canyon Dam or leaving it in place while 'equaliz[ing] upstream flows' to further commenters' stated goals of 'new recreational activities; restoring the environmental, recreational, and cultural resources of the Grand Canyon and the Colorado River basin to their pre-dam conditions; and positively affecting the health of the Colorado River Ecosystem.'" (Doc. 106 ¶ 20; Doc. 119 ¶ 20; AR003779.) The LTEMP FEIS explained that "this alternative 'would not meet the purpose, need, or objectives of the proposed action' because it 'would not allow compliance with water delivery requirements, including the Law of the River and 2007 Interim Guidelines . . . and would not comply with other federal requirements and regulations, including the GCPA.'" (Doc. 106 ¶ 20; Doc. 119 ¶ 20; AR003779–80) (internal citation omitted). "The FEIS further noted that this alternative had been rejected in the 1995 EIS on Glen Canyon Dam operations for similar reasons." (Doc. 106 ¶ 20; Doc. 119 ¶ 20; AR003780.)

Plaintiffs also proposed an alternative called "Fill Lake Mead First," which was not carried forward for detailed analysis because it "proposed that 'primary water storage would shift from Lake Powell to Lake Mead, using Lake Powell as a backup for seasonal and flood control purposes' to meet the commenters' stated goals of reducing evaporation and seepage and increasing 'flexibility for implementing Grand Canyon restoration strategies.'" (Doc. 106 ¶ 21; Doc. 119 ¶ 21; AR003780.) The LTEMP FEIS explained "this alternative 'would not meet the purpose, need, or objectives of the proposed action' because it 'would not allow compliance with water release requirements, including, but not limited to, the division and apportionment of the use of the waters of the Colorado River system under the Colorado River Compact, as well as other portions of the Law of the River and 2007 Interim Guidelines . . . .'" (Doc. 106 ¶ 21; Doc. 119 ¶ 21; AR003780) (internal citation omitted). The LTEMP FEIS further explained that "the alternative would not comply with other federal requirements and regulations, including the GCPA." (Doc.

106 ¶ 21; Doc. 119 ¶ 21; AR003780.)

Plaintiffs also proposed an alternative called "Run-of-the-River," which was also not carried forward for detailed analysis because it "suggested that Glen Canyon Dam could be re-engineered to operate as a modified run-of-the-river facility" to "restore natural water and sediment flows to the greatest extent possible by reconnecting old river bypass tunnels or constructing new tunnels to bypass Glen Canyon Dam." (Doc. 106 ¶ 22; Doc. 119 ¶ 22; AR003780.) The LTEMP FEIS "explained that this alternative 'would not meet the purpose, need, or objectives of the proposed action' because it 'would not allow compliance with water delivery requirements, including the Law of the River and 2007 Interim Guidelines . . . and would not comply with other federal requirements and regulations, including the GCPA.'" (Doc. 106 ¶ 22; Doc. 119 ¶ 22; AR003780) (internal citation omitted).

6. The LTEMP and Hydropower

The FEIS explains that "[a]s identified under the CRSPA, another authorized purpose of Glen Canyon Dam is to generate hydroelectric power, which is a clean, renewable, and reliable energy source." (Doc. 106 ¶ 23; Doc. 119 ¶ 23; AR003673) (internal citation omitted). This hydropower is "marketed and delivered by WAPA to municipalities, rural electric cooperatives, American Indian Tribes, and governmental agencies in Wyoming, Utah, Colorado, New Mexico, Arizona, and Nevada." (Doc. 106 ¶ 23; Doc. 119 ¶ 23; AR003673.) The powerplants' generators "have a total capacity of 1,320 megawatts (MW)" and "produce about 5 billion kilowatt-hours (kWh) of hydroelectric power annually to help meet the electrical needs of about 5.8 million customers." (Doc. 106 ¶ 23; Doc. 119 ¶ 23; AR003673) (internal citations omitted). The FEIS also explains that the Dam "serves as a backup facility for power and transmission outages across the Southwest" and "[r]evenues from production of hydropower fund the Basin Fund, including the operations and maintenance of CRSP facilities, repay costs for participating projects, and help fund the Salinity Control Forum and many important environmental programs associated with Glen and Grand Canyons." (Doc. 106 ¶ 23; Doc. 119 ¶ 23;

AR003673.)[4]

7. The LTEMP's Hydropower and Climate Change Analysis

The LTEMP establishes "a 'water resource objective' to assess hydrology in the FEIS analysis 'to ensure the LTEMP does not affect fulfillment of water delivery obligations to the communities and agriculture that depend on Colorado River water and remains consistent with applicable determinations of annual water release volumes from Glen Canyon Dam made pursuant to [LROC]' and the [2007 Interim Guidelines]." (Doc. 106 ¶ 26; Doc. 119 ¶ 26; AR004049.) The FEIS includes analysis "to avoid changes in annual volume releases and thereby ensure operations are consistent with the LROC for Colorado River Basin Reservoirs, which are currently implemented through the 2007 Interim Guidelines." (Doc. 106 ¶ 26; Doc. 119 ¶ 26; AR004049.) More specifically, "[q]uantitative analysis of the effects of reservoir operations was performed using Reclamation's official basin-wide long-term planning model, Colorado River Simulation System (CRSS)," which "provide[s] a range of potential future system conditions such as reservoir releases and storage, as well as operating tiers for Lake Powell and Lake Mead." (Doc. 106 ¶ 26; Doc. 119 ¶ 26; AR004049.)

The FEIS uses "hydrology modeling 'to determine whether there were potential effects of LTEMP alternatives on annual and monthly operations on Colorado River system conditions (e.g., reservoir elevations, reservoir releases, and river flows) as compared to Alternative A (the No Action Alternative).'" (Doc. 106 ¶ 27; Doc. 119 ¶ 27; AR004050.) Multiple simulations were performed for each alternative in order to quantify the uncertainties in future conditions because of the uncertainties associated with future inflows into the system, and the modeling results are expressed in probabilistic terms. (Doc. 106 ¶ 27; Doc. 119 ¶ 27.) "As part of this modeling, '[f]uture Colorado River system conditions under the LTEMP alternatives were simulated using CRSS,' which has also been used in Reclamation's Colorado River modeling efforts, including the 1996 Glen Canyon Operations EIS, the 2007 Interim Guidelines EIS, and the Colorado River Basin

[4] "CRSP" stands for Colorado River Storage Project. (AR003517.)

Water Supply and Demand Study." (Doc. 106 ¶ 27; Doc. 119 ¶ 27; AR004050.)

The LTEMP "climate change analysis discusses its use of the 2012 'Colorado River Basin Water Supply and Demand Study'" and that the "[t]he purpose of the Study was to define future imbalances in water supply and demand in the Basin through the year 2060, and to develop and analyze options and strategies to resolve those imbalances." (Doc. 106 ¶ 31; AR004037–38.) "The study used several different scenarios for both supply and demand to capture a range in potential future conditions" and "included the downscaled general circulation model (GCM) projected trends and variability (downscaled GCM) scenario" as part of supply conditions. (Doc. 106 ¶ 31; AR004037.) The "downscaled GCM scenario was 'one plausible projection of the future based on recent studies of future changes in climate variability and climate trends' which help[s] to assess 'influence on streamflow and Basin water supply, which indicate that the climate will continue to warm, and that there will be corresponding changes in regional precipitation and temperature trends beyond what has occurred historically.'" (Doc. 106 ¶ 31; AR004037–38.) "Comparing the median of the water supply projections against the median of the water demand projections, the long-term projected imbalance in future supply and demand is about 3.2 million ac-ft by 2060." (Doc. 106 ¶ 31; AR004038.) (internal citation omitted).

The "LTEMP climate change analysis also describes the 2011 'SECURE Water Act Report,' which describes climate change effects on the Colorado River Basin, including increased temperatures; both increases and decreases in precipitation depending on the location; decreased annual runoff; and warmer conditions making increased early runoff and decreased late runoff." (Doc. 106 ¶ 32; AR004038.) "Potential impacts for the Colorado River Basin include: decrease spring and summer runoff, affecting water supply, reservoir levels, and hydropower production; increased winter runoff, affecting facilities and warm-season water supply; and warmer conditions, affecting aquatic ecosystems, power production, power demands, invasive species and listed species." (Doc. 106 ¶ 32; AR004039.)

The LTEMP FEIS explains "that climate change 'on Lake Powell's elevation could

also affect the amount of electric energy produced by the Glen Canyon Dam Powerplant over the study period, as well as the electric capacity of the Glen Canyon Dam.'" (Doc. 106 ¶ 33; Doc. 119 ¶ 33; AR004040.) Lower Lake Powell elevations reduce "hydraulic head (water pressure) on the turbines in the Glen Canyon Dam Powerplant" and "when Lake Powell's elevation drops, the amount of hydropower generated by a given release volume also decreases." (Doc. 106 ¶ 33; Doc. 119 ¶ 33; AR004040.) The LTEMP FEIS explains that "if Lake Powell drops low enough, no power can be produced at Glen Canyon Dam (at a Lake Powell elevation of 3,490 ft)." (Doc. 106 ¶ 33; Doc. 119 ¶ 33; AR004040.)

The LTEMP FEIS's hydrology analysis discusses "the 2012 Supply and Demand Study to describe the 'general picture' for climate change effects to include: 'decreased inflow to the reservoir system (due to lower precipitation), greater evaporation and evapotranspiration losses (due to higher temperatures), and increased demand (due to increased population size).'" (Doc. 106 ¶ 34; Doc. 119 ¶ 34; AR003834.) It further explains, "[c]ombined, these factors increase the probability and likely duration of delivery shortages in coming decades" and estimates of "shortfall created by future supply and demand imbalances could range from 2.3 to 4.1 maf [million acre-feet] per year, during any given deficit period." (Doc. 106 ¶ 34; Doc. 119 ¶ 34; AR003834.) Therefore, "[w]hen climate change considerations are taken into account, this value increases to around 7.4 maf per year during the deficit period" and "[t]hese considerations would affect all of the LTEMP alternatives equally." (Doc. 106 ¶ 34; Doc. 119 ¶ 34; AR003834.)

The LTEMP FEIS's climate change analysis explains:

> The effects of climate change on hydrology were treated as an uncertainty in the analyses of hydrology and downstream resource impacts, rather than by means of a full-fledged climate analysis and adaptation approach. The LTEMP EIS has the more limited scope of evaluating future dam operations, management actions, and experimental options to provide a framework for adaptively managing Glen Canyon Dam over the next 20 years to protect and minimize adverse impacts on downstream natural and cultural resources in GCNRA and GCNP. Accordingly, [the Department] used a sensitivity

analysis approach to see how robust the alternatives would be with regard to their impact on resources under climate change.

The Basin Study (Reclamation 2012e) suggested there could be significant increases in temperature and decreases in water supply to the Colorado River system below Glen Canyon Dam over the next 50 years, driven by global climate change. The magnitude of these changes is uncertain. In addition, there could be changes to sediment input (especially from the Paria and Little Colorado Rivers), driven by complex local and regional climate changes, but the direction and magnitude of these changes are uncertain. Water supply, sediment supply, and temperature are important factors that affect all of the resources under consideration in the LTEMP EIS.

The approach used in this EIS treats climate change as an external uncertainty and analyzes the robustness of the alternatives to uncertainties in the water and sediment inputs. This approach required: (1) use of 21 hydrologic and 3 sediment scenarios based on historic conditions; (2) estimation of the likelihood of the scenarios under climate change; and (3) analysis of the impacts of alternatives under all hydrologic and sediment scenarios. The approach analyzed how robust the alternatives would be to climate change driven hydrologic and sediment inputs. For the climate-change analysis, the 21 hydrologic traces used in the LTEMP analysis were weighted according to their frequency of occurrence (based on mean annual inflow to Lake Powell) in the Basin Study's 112 simulations. Figure 4.16-1 shows the weights assigned to each hydrologic trace. As shown in Figure 4.16-2, the 21 hydrologic traces were not representative of the full range of expected inflow variation under a climate-change scenario and did not include the driest traces expected under climate change. About 30% of the forecast distribution was not captured by the historic traces.

Modeling results for downstream resource effects were generated for the 21 historic hydrology traces and 3 historic sediment traces. For the analyses presented in Sections 4.2 through 4.10, the hydrology traces were weighted equally to represent their equal probability of occurrence in the absence

> of climate change. The climate-change weights shown in Figure 4.16-1 were applied to the modeled results for each trace to represent their probability of occurrence under climate change.

(Doc. 106 ¶ 35; Doc. 119 ¶ 35; AR004453–54).[5]

The climate change analysis gave greater weight to dry historical traces to address expected dry years under climate change. (Doc. 106 ¶ 36; Doc. 119 ¶ 36; AR004459) ("[C]limate-change analysis approach used the historic hydrology as its basis, but gave greater weight to drier years to represent their expected increased frequency of occurrence under a climate change scenario . . . this approach underestimated the occurrence of the driest years, but it allows a determination of the robustness of the alternatives to climate-change uncertainty."). The FEIS analysis describes hydrological and climate change effects regarding the alternatives:

> [D]ifferences in hydrology would influence the relative effect of LTEMP alternatives on resources, but, in general, the analysis conducted for this EIS indicates the differences would be relatively small (<5%) and not differ greatly among alternatives. Table 4.16-2 provides an overview of the expected effects on downstream resources. Under climate change, the impacts of most or all LTEMP alternatives would be less on sediment resources, humpback chub, trout, riparian vegetation, Grand Canyon cultural resources, Tribal values, and most recreation metrics, but there would be a reduction in the value of hydropower generation and capacity and an increase in impacts on Glen Canyon cultural resources.

(Doc. 106 ¶ 37; Doc. 119 ¶ 37; AR004461.)

Further, the LTEMP FEIS responded to comments regarding climate change and hydrology:

> Regarding whether the annual volume of water moving from the Upper Colorado River Basin to the Lower Colorado River Basin should be changed for the purpose climate change considerations, annual volume determinations are presently implemented through LROC as currently implemented through

[5] "GCNRA" stands for Glen Canyon National Recreation Area and "GCNP" means Grand Canyon National Park. (AR003517.)

> the 2007 Interim Guidelines. Consistent with the GCPA, and the purpose and need for this proposed action, any changes to annual volume determinations are beyond the scope of this NEPA analysis. Accordingly, the Proposed Action in the draft EIS does not require the Federal agencies (NPS and BOR) to either create a plan for providing water to the Colorado River in Grand Canyon during extended drought periods or develop a basin wide plan for the operations of all dams.

(Doc. 106 ¶ 39; Doc. 119 ¶ 39; AR005951–52.)

And when the Environmental Protection Agency ("EPA") reviewed the LTEMP FEIS, it "commend[ed] the National Park Service and the Bureau of Reclamation for conducting a rigorous analysis of the proposed actions, and clearly communicating the projected impacts to important resources in the project area." (Doc. 106 ¶ 38; Doc. 119 ¶ 38; AR001452.) The EPA also explained that "Reclamation incorporated the Council on Environmental Quality's Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews," and further "provided a comprehensive table that utilizes standardized and comparable metrics to quantify the effects of a changing climate on each of the presented alternatives." (Doc. 106 ¶ 38; Doc. 119 ¶ 38; AR001452.)

8. The LTEMP ROD

Following the LTEMP FEIS analysis, with all the considerations listed above and more, the Secretary selected the preferred alternative in LTEMP:

> The proposed Federal action considered in the LTEMP FEIS is the development and implementation of a structured, long-term experimental and management plan for operations of Glen Canyon Dam. The LTEMP will provide a framework for adaptively managing Glen Canyon Dam operations and other management and experimental actions over the next 20 years, consistent with the Grand Canyon Protection Act (GCPA) and other provisions of applicable Federal Law. The LTEMP identified specific options for dam operations (including hourly, daily, and monthly release patterns), non-flow actions, and appropriate experimental and management actions that meet the GCPA's requirements, and maintain or improve hydropower production to the greatest extent practicable,

> consistent with improvement of downstream resources, including those of importance to American Indian tribes. Under the LTEMP, water will continue to be delivered in a manner that is fully consistent with and subject to the Colorado River Compact, the Upper Colorado River Basin Compact, the Water Treaty of 1944 with Mexico, the decree of the Supreme Court in *Arizona v. California*, and the provisions of the Colorado River Storage Project Act of 1956 (CRSPA) and the Colorado River Basin Project Act of 1968 that govern allocation, appropriation, development, and exportation of the waters of the Colorado River Basin, and consistent with applicable determinations of annual water release volumes from Glen Canyon Dam made pursuant to the Long-Range Operating Criteria (LROC) for Colorado River Basin Reservoirs, which are currently implemented through the 2007 Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lake Powell and Lake Mead.

(Doc. 106 ¶ 40; Doc. 119 ¶ 40; AR000054.)

The FEIS and ROD "have been prepared in accordance with the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA regulations," and Department regulations. (AR000055) (internal citations omitted).

For this ROD, the Department "selected Alternative D without modification, which was identified in the LTEMP FEIS as both the preferred and the environmentally preferred alternative. This alternative will use the monthly release volumes" and "[w]ithin a year, monthly operations may be increased or decreased based on factors referenced in . . . Attachment B of this ROD." (*Id.*) The Department explains "Alternative D best meets the purpose and need and the broadest set of objectives and resource goals of the LTEMP" and "provides the best balance of performance among downstream resources to comply with the GCPA to protect, mitigate adverse impacts to, and improve the natural and cultural resources and visitor use in the . . . park units while continuing to comply with the GCPA § 1802(b) applicable laws." (*Id.*)

With respect to comments lodged by the Plaintiffs, the Department responded to them in the ROD. (Doc. 106 ¶ 43; Doc. 119 ¶ 43.) Many of the comments that Plaintiffs

made in the FEIS overlap with those in their Complaint. Specifically,

> In their comments on the FEIS, [Plaintiffs] stated that the FEIS (1) fails to take climate change seriously and does not represent the most current and best available science on climate change and its likely impacts on the Colorado River; (2) does not include the most current economic analysis of the impact of removing hydropower at Glen Canyon Dam; (3) fails to use the most current science to adequately consider, account for, and mitigate climate change emissions from operations of Glen Canyon Dam; (4) fails to take the required hard look at the impacts of the LTEMP alternatives on climate change and economic impacts; and (5) fails to consider an adequate range of alternatives that meet the purpose, needs, and objectives of the proposed project.

(AR000132.)

The Department's response includes that it:

> [B]elieves that Reclamation's 2012 Basin Study, which was used as the basis for the climate analysis in the LTEMP FEIS, represents the most current comprehensive look at the effects of climate change on water supply in the Colorado River Basin, and is still relevant to the analysis of the impacts of the LTEMP over the next 20 years. The analysis presented in the FEIS was specifically intended to determine the sensitivity of the alternatives to different climate outcomes and determined that uncertainty in climate futures would not change the relative performance of the alternatives; therefore, it would not change the selection of Alternative D for implementation.
>
> The FEIS presents a thorough and comprehensive evaluation of the impacts of alternatives on hydropower generation and economics in Appendix K of the FEIS. That analysis looked at the system-wide response of changes in Glen Canyon Dam output related to operations under each LTEMP alternative. That analysis did not evaluate the complete loss of power generation at Glen Canyon Dam, because decommissioning the dam would not meet the purpose, need, and objectives of the LTEMP.
>
> [The Department] disagrees with the assertion that the LTEMP FEIS fails to comply with NEPA guidelines and with the CEQ

guidance for estimating or addressing greenhouse gas emissions, and note[s] that the EPA commended [the Department] on the thoroughness of the FEIS and incorporation of the latest CEQ guidance for addressing GHG emissions and the effects of climate change in NEPA reviews.

Section 4.16 of the FEIS presented a detailed systemwide evaluation of the effects of LTEMP alternatives on air emissions and GHG emissions in the 11-state region. Reservoirs such as Lake Powell would be expected to produce some amount of GHG emissions consistent with levels reported for reservoirs in the semiarid Western U.S. (Tremblay et al. 2004 and http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/4_Volume4/V4_p_Ap3_WetlandsCH4.pdf). The values presented in the referenced PLOS One article were not used for the FEIS, because that article was published after the FEIS was completed, and the article's estimates of GHG emissions from Lake Powell are based on simplifying assumptions that add uncertainty to those estimates. The authors of that study stated that their estimates were highly variable and that site specific studies would be needed to determine actual emissions for a specific reservoir. Such studies have not been performed on Lake Powell. Additionally, GHG emissions from reservoirs are related to surface area, and the selected alternative would only change monthly, daily and hourly dam releases and has only temporary and slight changes to reservoir elevations or surface area. These changes are much less than the typical annual variation in reservoir level due to inflows and regulated by other processes outside of the scope of the LTEMP.

The LTEMP team developed a set of alternatives that represented the full range of reasonable experimental and management actions; met the purpose, need, and objectives of the proposed action; and were considered within the constraints of existing laws, regulations, and existing decisions and agreements. Other alternatives such as the "Fill Mead First," "Run-of-the River" and "Decommissioning the Dam" proposals were not included in the FEIS because they would not meet the purpose, need, or objectives of the proposed action (see Sections 2.3.9 and 2.3.10 of the FEIS). These alternatives would not allow compliance with water delivery requirements including the Law of the River and 2007 Interim Guidelines,

> and would not comply with other federal requirements and regulations, including the GCPA.

(AR000132–33.)

Plaintiffs proceeded with this action and request that this Court find the LTEMP FEIS violated NEPA, order the Department to produce a supplemental environmental impact statement ("SEIS") to include significant new information regarding climate change impacts on the Colorado River, and vacate and set aside the LTEMP FEIS and ROD. (Doc. 1 at 51–52.)

B. The Parties

1. Plaintiffs

All three Plaintiffs are 501(c)(3) environmental organizations. Plaintiff Save The Colorado is "dedicated to the protection and restoration of the Colorado River and its tributaries." (Doc. 1 ¶ 14.) Its "mission is to promote conservation of the Colorado River and its tributaries through science, public education, advocacy, and litigation by supporting alternatives to new dams and diversions that enhance the river's adaptation to climate change, support river restoration and aquatic species conservation, and remove outdated and unneeded dams from the Colorado River." (*Id.*) Its members "regularly visit and recreate within the Glen Canyon area above and below the Dam." (*Id.* ¶ 16.)

Plaintiff Living Rivers "is a watershed advocacy organization dedicated to the protection of the Colorado River and the many rivers of the American West" and "works to repeal antiquated laws which harm the Colorado River, reduce human water consumption and energy use to decrease harmful ecological impacts on the river, and recruit support from members of the public in their mission to revive the Colorado River." (*Id.* ¶ 23.) Living Rivers alleges that its "members have suffered aesthetic, recreational, scientific, and other harms as a result of the Department's ROD and its underlying Plan FEIS" and "will continue to suffer these and other harms if the Department's ROD is not vacated due to the various NEPA and APA violations. . . ." (*Id.* ¶ 24.)

Plaintiff Center for Biological Diversity has "more than 1.6 million members and

online activists dedicated to the protection of endangered species and wild places and to the fulfillment of the continuing educational goals of our membership and the general public in the process." (*Id.* ¶ 29.) The Center alleges "the Department has failed to incorporate climate change into the formulation of the Glen Canyon Dam operational plan" and its members can be "redressed by a formal ruling of this Court which declares the Department's ROD, and its underlying Plan FEIS, arbitrary and capricious in violation of both the APA and NEPA, vacates the Department's ROD and its underlying Plan FEIS, and forces the Department to create a plan of operation for Glen Canyon Dam incorporating and reflecting the reality of climate change. (*Id.* ¶¶ 30–31.)

2. Federal Defendants

Plaintiffs bring this suit against the Department and Secretary of the Interior, Debra Haaland, in her official capacity (the "Secretary").[6] (Doc. 1 ¶¶ 32–33.) Plaintiffs also allege that the Department encompasses Reclamation and NPS, which are the "two lead agencies [that] created the Final Environmental Impact Statement for the Glen Canyon Dam Long-Term Experimental Management Plan ('Plan FEIS')." (*Id.* ¶ 32.)

3. The States

The States of Arizona, California, Colorado, Nevada, Utah, and Wyoming (the "States") moved to intervene as intervenor-defendants. (Doc. 28.) The Court granted their motion because the "States depend on the hydroelectric power produced by water from the River and the money derived therefrom [and] are heavily involved [in] shaping legal policy concerning the River through federal legislation and judicial advocacy." (Doc. 34 at 1.) The Court concluded that intervention was necessary because the outcome of Plaintiffs' Complaint "might impede the States' ability to protect their hydropower and water allocation interests [and] [w]hile the States have some overlapping interests with the Department of the Interior, the States' interests are more parochial than that of the federal government." (*Id.* at 2.)

[6] The Complaint originally named Secretary David Bernhardt, but Defendants then substituted in Secretary Haaland pursuant to Fed. R. Civ. P. 25(d). (Doc. 105 at 1.)

4. Lower Basin Contractors

Intervenors Central Arizona Water Conservation District, Metropolitan Water District of Southern California, and Southern Nevada Water Authority (collectively, "Lower Basin Contractors") moved to intervene as intervenor-defendants because the "Complaint threatens to disrupt the established and well-founded operations negotiated and relied upon by the Lower Basin Contractors." (Doc. 35 at 3.) Further, they "rely on consistent and dependable operations to satisfy their obligations to serve up to 75% of the 40 million people who rely on Colorado River water." (*Id.*) The Court granted the motion to intervene. (Doc. 39.)

5. Hydropower Providers

Intervenors Colorado River Energy Distributors Association and Irrigation and Electrical Districts' Association of Arizona (collectively, "Hydropower Providers") moved to intervene as intervenor-defendants. The Court granted the motions. (Docs. 23, 34.) Colorado River Energy Distributors Association is a "regional association of preference power customers whose members include more than 155 municipal and rural electric cooperative utilities, state agencies, political subdivisions, and tribal utility authorities serving over 4 million electric consumers in the six western states of Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming." (Doc. 13 at 9-10.) Its "members purchase more than 80 percent of the hydropower produced by the facilities of the Bureau of Reclamation's CRSP, which includes Glen Canyon Dam." (*Id.*) Irrigation and Electrical Districts' Association of Arizona's "members contract for hydropower produced at Glen Canyon Dam, Hoover Dam, Davis Dam and Parker Dam and acquire water from the Colorado River directly or through the Central Arizona Project." (Doc. 26 at 1-2.) The "relief sought by Plaintiffs in this case would have a direct, substantial and negative effect on the statutory and contractual rights of IEDA Members and Associate Members." (*Id.*)

C. The Claims

The basis for Plaintiffs' Complaint stems from the Department's ROD, dated December 2016, for the LTEMP. (Doc. 1 ¶ 4.) Plaintiffs bring five claims alleging that the

Department, through its "ROD and its underlying Final Environmental Impact Statement ('Plan FEIS'), which contains the LTEMP", in one way or another, violates NEPA and the APA. (*Id.*)

In their first claim, Plaintiffs allege that the Plan FEIS "did not include an analysis of the ways in which climate change will impact the efficacy of the considered alternatives," its "impacts on the affected environment," or "how various resources will be impacted if conditions such as extreme drought arise." (*Id.* ¶ 133.) Plaintiffs allege that the "Department's failure to include adequate analysis of the proposed alternatives is arbitrary, capricious, and not in accordance with NEPA, in violation of 5 U.S.C. § 706(2)(A)." (*Id.* ¶ 134.)

In their second claim, Plaintiffs allege that "neither climate change nor its accompanying effects such as increased water scarcity and drought were included within the project's purpose and need statement" and "the Department unreasonably narrowed the scope of the purpose and need of the project by including a non-existent obligation of hydropower production." (*Id.* ¶¶ 136, 139.) Therefore, the "Department's overly narrow statement of purpose and need is arbitrary, capricious, not in accordance with NEPA, and in violation of 5 U.S.C. § 706(2)(A)." (*Id.* ¶ 140.)

In their third claim, Plaintiffs allege the Department: (1) failed to include an alternative on the Glen Canyon Dam's "operations and the protection of downstream resources under climate change impact projections"; (2) "improperly construed the purpose and need of the project to include the generation of hydroelectric power at current or elevated levels"; and (3) "[d]ue to the project's narrow statement of purpose and need, the Department did not consider Plaintiff's [sic] alternatives including Run-of-the-River, Decommissioning the Dam, and Fill Lake Mead First." (*Id.* ¶¶ 142–44.)

In their fourth claim, Plaintiffs allege the Department and Agencies—Reclamation and NPS—"'unlawfully withheld or unreasonably delayed' a required agency action through failing to produce an[sic] SEIS in light of recently published scientific research" regarding "pressing climate change impacts on the [sic] both the Colorado River broadly

and operations at the Glen Canyon Dam." (*Id.* ¶¶ 148–49.) Plaintiffs alternatively allege that if the Department and Agencies "affirmatively and finally decided not to prepare an SEIS, that final agency action was arbitrary capricious, not in accordance with NEPA and in violation of 5 U.S.C. § 706(2)(A)." (*Id.* ¶ 150.)

Plaintiffs no longer seek judgment on their fifth claim. (Doc. 92 at 11, n. 1.)

D. The Pending Dispositive Motions

Plaintiffs initiated the slew of dispositive motions by filing their Motion for Summary Judgment. (Doc. 92.) Shortly thereafter, the Federal Defendants filed their Motion for Judgment on the Pleadings, or, in the Alternative, Cross Motion for Summary Judgment. (Docs. 104, 105.) The Intervenors then filed their share of motions. Specifically, (1) the State Intervenors filed their Response to Plaintiffs' Motion for Summary Judgment; Cross-Motion for Summary Judgment and Joinder in the Federal Government's Motion; (2) the Water Basin Contractors filed their Joinder in Federal Defendants' Motion for Judgment on the Pleadings, or, in the Alternative, Cross-Motion for Summary Judgment; (3) the State of New Mexico, through the New Mexico Interstate Stream Commission, filed its amicus curie brief; and (4) the Hydropower Intervenors filed their Response to Save the Colorado's Motion for Summary Judgment. (Docs. 111, 111-1, 112-2, 113,115.)

Plaintiffs then filed (1) a Combined Reply Memorandum in Support of their Motion for Summary Judgment and Memorandum in Opposition to Defendants' Cross-Motion for Summary Judgment, which included a Statement of Facts and a Second Declaration of James L. Powell, Ph.D ("Second Powell Declaration"), as well as (2) their Combined Reply in Support of their Motion for Summary Judgment, and Response in Opposition to All Intervenors' Cross-Motions for Summary Judgment, and their Controverting Statement of Facts to [Hydropower Intervenors'] Separate Statement of Facts. (Docs. 118, 119, 120, 121, 122.)

Pursuant to Local Rule 7.2(m), the Hydropower Intervenors filed a motion to strike: (1) Plaintiffs' Controverting Statement of Facts to Hydropower Intervenors' Separate Statement of Facts in Support of Opposition to Plaintiffs' Motion for Summary Judgment

(Doc. 122); and (2) all references to the Second Powell Declaration that appear in Plaintiffs' Combined Reply in Support of their Motion for Summary Judgment, and Response in Opposition to All Intervenors' Cross-Motions for Summary Judgment (Doc. 121). (Doc. 125.) The Court granted in part and denied in part Hydropower Intervenors' motion to strike. (Doc. 138.) The Court struck the Controverting Statement of Facts (Doc. 122), allowed Plaintiffs to file a new Combined Reply and Response brief to incorporate their objections by September 21, 2022, and granted leave for Hydropower Intervenors to file a Sur-Reply by September 28, 2022. (Doc. 138 at 4.) The Plaintiffs did not file a new Combined Reply and Response by the Court's deadline and as such, they have waived their opportunity to file a new Combined Reply to Intervenors' Responses.

The Court held oral argument on the motions.

II. LEGAL STANDARDS

A. National Environmental Policy Act

NEPA requires federal agencies prepare "a detailed statement by the responsible official on . . . the environmental impact" of any federal actions "significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C)(i); *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1185 (9th Cir. 2008). NEPA's purpose is twofold: (1) to ensure that agencies carefully consider information about significant environmental impacts and (2) to guarantee relevant information is available to the public. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989); *Ctr. for Biological Diversity*, 538 F.3d at 1185. "NEPA is a procedural statute," designed to ensure "that federal agencies take a 'hard look' at the environmental consequences of their proposed actions before deciding to proceed." *Native Ecosystems Council v. Weldon*, 697 F.3d 1043, 1051 (9th Cir. 2012) (quoting *Methow Valley*, 490 U.S. at 350–51). "Although NEPA establishes procedures by which agencies must consider the environmental impacts of their actions, it does not dictate the substantive results of agency decision making." *Id.* (citing *Methow Valley*, 490 U.S. at 350). "A court generally must be at its most deferential when reviewing scientific judgments and technical analyses within

the agency's expertise under NEPA." *Id.* (internal citations omitted).

B. Administrative Procedure Act

The APA's standard of review, 5 U.S.C. §§ 701–06, applies to Plaintiffs' NEPA claims. *San Luis & Delta-Mendota Water Auth. v. Jewell*, 747 F.3d 581, 601 (9th Cir. 2014). The APA provides that "[a] person suffering legal wrong because of agency action, or adversely affected or aggrieved by agency action within the meaning of a relevant statute, is entitled to judicial review thereof." 5 U.S.C. § 702. Under the APA, the Court shall "hold unlawful and set aside agency action, findings, and conclusions found to be":

> (A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law. . . .
> (C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right; [and/or]
> (D) without observance of procedure required by law[.]

Id. § 706(2).

When assessing claims pursuant to the APA, a court, reviewing only the Administrative Record ("AR"), must determine "whether or not as a matter of law the evidence in the administrative record permitted the agency to make the decision it did." *Sierra Club v. Mainella*, 459 F.Supp.2d 76, 90 (D.D.C. 2006) (quoting *Occidental Eng'g Co. v. INS*, 753 F.2d 766, 769–70 (9th Cir. 1985)). In other words, a court's "review is guided by whether the agency's analysis is reasonable and offers sufficient detail to ensure that environmental consequences have been fairly evaluated." *Protect Our Communities Found. v. Jewell*, 825 F.3d 571, 582 (9th Cir. 2016) (citation and quotation marks omitted).

A reviewing court "must consider whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment." *Citizens to Pres. Overton Park, Inc. v. Volpe*, 401 U.S. 402, 416 (1971), *abrogated in part on other grounds by Califano v. Sanders*, 430 U.S. 99, 105 (1977). Although a court's inquiry must be thorough, the standard of review is deferential; the agency's decision is "entitled to a presumption of regularity," and a court may not substitute its judgment for that of the agency. *Id.* at 415–16.

Courts should defer to the agency on matters within the agency's expertise unless the agency completely failed to address a factor that was essential to making an informed decision. *Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 422 F.3d 782, 798 (9th Cir. 2005). A court "may not substitute its judgment for that of the agency concerning the wisdom or prudence of [the agency's] action." *River Runners for Wilderness v. Martin*, 593 F.3d 1064, 1070 (9th Cir. 2010) (citations omitted). As the Ninth Circuit explained in *River Runners*:

> In conducting an APA review, the court must determine whether the agency's decision is founded on a rational connection between the facts found and the choices made . . . and whether [the agency] has committed a clear error of judgment. The [agency's] action . . . need only be a reasonable, not the best or most reasonable, decision.

593 F.3d at 1070 (internal citations and quotations omitted).

Reviewing courts must be at their "most deferential" when an agency makes predictions, "within its area of special expertise, at the frontiers of science." *Baltimore Gas & Elec. Co. v. Nat. Res. Def. Council*, 462 U.S. 87, 103 (1983). Particularly, an agency's "scientific methodology is owed substantial deference." *Gifford Pinchot Task Force v. U.S. Fish & Wildlife Serv.*, 378 F.3d 1059, 1066 (9th Cir. 2004), *superseded on other grounds by regulation as stated in Defenders of Wildlife v. Zinke*, 856 F.3d 1248, 1260 (9th Cir. 2017).

But "the deference accorded an agency's scientific or technical expertise is not unlimited." *Brower v. Evans*, 257 F.3d 1058, 1067 (9th Cir. 2001). Deference is not owed if "the agency has completely failed to address some factor consideration of which was essential to making an informed decision," *id.* (internal citation and quotation omitted), and courts are not required to defer to an agency conclusion that runs counter to that of other agencies or other individuals with specialized expertise in a particular technical area. *See, e.g, Am. Tunaboat Ass'n v. Baldrige*, 738 F.2d 1013, 1016–17 (9th Cir. 1984).

C. Law of the River

The "Law of the River" refers to a collection of interstate compacts, federal treaties, statutes, regulations, and court decrees that were designed to "resolve disputes arising from water scarcity" and relate to Colorado River water rights. *Navajo Nation v. U.S. Dep't of the Interior*, 26 F.4th 794, 800 (9th Cir. 2022), *cert. granted sub nom. Arizona v. Navajo Nation*, 143 S. Ct. 398 (2022).

The Law of the River began with a 1922 compact between seven states: Colorado, Wyoming, Utah, and New Mexico ("the "Upper Basin" states), and Arizona, California, and Nevada (the "Lower Basin" states). 1922 Compact art. II, *reprinted in* 70 Cong. Rec. 324 (Dec. 10, 1928). The Compact apportioned 7.5 million acre-feet of water to each basin in perpetuity. *Id.* art. III.

In 1928, Congress addressed the management of the Colorado River through the Boulder Canyon Project Act. 43 U.S.C. § 617 *et seq*. The Act conditionally approved the 1922 Compact and authorized the Secretary to construct a massive dam at Boulder Canyon (now the Hoover Dam) and the attendant water delivery infrastructure (a reservoir, now Lake Mead, and delivery canals) to effectuate the allocations laid out in the 1922 Compact. *Id.* § 617. "The Boulder Canyon Project Act became effective in 1929, after six of the seven states ratified the Compact, and California 'irrevocably and unconditionally' covenanted to limit its consumption to 4.4 mafy. Arizona did not ratify the 1922 Compact, so the Lower Basin states never agreed to the second compact that would have apportioned the 7.5 mafy among the three states." *Navajo Nation v. Dep't of the Interior*, 876 F.3d 1144, 1154 (9th Cir. 2017) (citing 43 U.S.C. § 617; *State of Ariz. v. State of Cal.*, 373 U.S. 546, 561–62 (1963)) (internal footnotes omitted).[7]

The Supreme Court issued a decree clarifying each state's rights to Lower Basin water to address conflicts between states. *See Arizona v. California*, 376 U.S. 340 ("1964 Decree"). The 1964 Decree affirmed the provisional apportionments set out in the Boulder Canyon Project Act. When the Secretary determined that 7.5 maf of water was available

[7] Here, "mafy" stands for million acre-feet per year of water. *Navajo Nation*, 26 F.4th at 800.

for release to the Lower Basin states, Nevada was entitled to 0.3 mafy; Arizona to 2.8 mafy; and California to the lion's share, 4.4 mafy. 1964 Decree art. II(B)(1), 376 U.S. at 342. The Decree also parceled out the relative shares each Lower Basin state would get in years in which, "as determined by the Secretary of the Interior," there was surplus water available. *Id.*[8] If, instead, the Secretary determined in a given year that there was a shortage of water—less than 7.5 maf available in the Lower Basin—the Decree required Reclamation first to "provid[e] for satisfaction of present perfected rights in the order of their priority dates without regard to state lines." *Id.* art. II(B)(3). Then, "after consultation with the parties to major delivery contracts and such representatives as the respective States may designate, [the Secretary] may apportion the amount remaining available for consumptive use in such manner as is consistent with the Boulder Canyon Project Act," the Decree, and other applicable federal statutes. *Id.*

The Secretary "is vested with considerable control over the apportionment of Colorado River waters," because she is "generally responsible for the management and delivery of water from the Colorado pursuant to the Law of the River. . . [e]ach state's water portion is dictated by the 1964 Decree, as is the allocation of surplus water; *Arizona v. California* accords discretion to the Secretary to apportion shortfalls in years of shortage." *Navajo Nation*, 876 F.3d at 1156 (citing *Arizona v. California*, 373 U.S. at 593–94). "The 1964 Decree also commits the determination of surplus and shortage years to the Secretary." *Id.* (citing 1964 Decree art. II(B)(2)–(3), 376 U.S. at 342).

The Secretary also adopted the LROC for Glen Canyon Dam on June 4, 1970, and the LROC remains largely unchanged today. *See* 35 Fed. Reg. 8951–02 (June 10, 1970); 70 Fed. Reg. 15873, 15874 (Mar. 29, 2005).

D. Grand Canyon Protection Act of 1992

Congress enacted the GCPA in response to concerns that arose regarding the effect of dam operations on downstream natural resources after the Dam was put into operation, specifically those within the Grand Canyon. *See* Reclamation Projects Authorization and

[8] California would receive 50% of the surplus, Arizona 46%, and Nevada 4%. *See* 1964 Decree art. II(B)(2), 376 U.S. at 342.

Adjustment Act of 1992, Pub. L. No. 102-575, 106 Stat. 4600, §§ 1801–09; *see also* S. Rep. No. 102-267, at 135 (1992). The GCPA requires the Secretary to operate the Dam "in such a manner as to [protect and] mitigate adverse impacts to, and improve the values for which Grand Canyon National Park and Glen Canyon National Recreation Area were established, including, but not limited to natural and cultural resources and visitor use." Reclamation Projects Authorization and Adjustment Act of 1992, Pub. L. No. 102-575, 106 Stat. 4600, § 1802(a).

The Secretary must implement the GCPA "fully consistent with and subject to" existing Colorado River laws that "govern allocation, appropriation, development, and exportation of the waters of the Colorado River Basin." *Id.* § 1802(b). It is those acts cited in Section 1802(b) that are relevant to determinations of annual water releases from Glen Canyon Dam. The GCPA specifically required the Secretary, by 1994, to "complete a final Glen Canyon Dam [Environmental Impact Statement or "EIS"], in accordance with [NEPA]." *Id.* §§ 1802(a), 1804(a), (c)(1)(A). Upon completion of the EIS, Congress required the Department to adopt operating criteria specific to Glen Canyon Dam. *See id.* § 1804(c). The GCPA further provides that the Secretary "shall operate Glen Canyon Dam in accordance with" the adopted criteria and annual plans. *Id.* § 1802(a).

Congress committed the programmatic means to achieve the broad mandate of Section 1802(a) to the discretion of the Secretary. Congress also expressly directed that the Secretary's implementation of Section 1802(a) can be undertaken only:

> [I]n a manner fully consistent with and subject to the Colorado River Compact, the Upper Colorado River Basin Compact, the Water Treaty of 1944 with Mexico, the decree of the Supreme Court in Arizona v. California, and the provisions of the Colorado River Storage Project Act of 1956 and the Colorado River Basin Project Act of 1968 that govern allocation, appropriation, development, and exportation of the waters of the Colorado River Basin.

Id. § 1802(b).

To ensure that Glen Canyon Dam will be operated consistent with the GCPA, the

statute also provides for long-term monitoring of Glen Canyon Dam operations. Such long-term monitoring must include necessary research and studies to determine the effects of the Dam operations, *see id.* § 1805(b), and must be conducted in consultation with a wide variety of interested entities. *See id.* § 1805(c).

E. Judgment on the Pleadings

Federal Rule of Civil Procedure 12(c) allows a party to "move for judgment on the pleadings" at a time "[a]fter the pleadings are closed—but early enough not to delay trial." Fed. R. Civ. P. 12(c). A Rule 12(c) motion is "limited to the content of the complaint." *N. Star Int'l v. Ariz. Corp. Comm'n*, 720 F.2d 578, 581 (9th Cir. 1983). If "matters outside the pleadings are presented to and not excluded by the court" on a Rule 12(c) motion, "the motion must be treated as one for summary judgment under Rule 56." Fed. R. Civ. P. 12(d). There are two exceptions to the general rule that consideration of extrinsic evidence converts a motion for judgement on the pleadings into a motion for summary judgment. First, a court may consider "material which is properly submitted as part of the complaint" without converting the motion. *Lee v. City of Los Angeles*, 250 F.3d 668, 688 (9th Cir. 2001) (internal citations omitted). The same is true for documents not physically attached to the complaint but whose "authenticity . . . is not contested" and if "the plaintiff's complaint necessarily relies" on them. *Id.* (internal citations omitted). Second, "a court may take judicial notice of matters of public record" without converting a motion to one for summary judgment. *Id.* at 689 (internal citations omitted); Fed. R. Evid. 201(b)(2).

Federal Defendants submit their Motion for Judgment on the Pleadings, or, in the Alternative, Cross-Motion for Summary Judgment, along with their separate statement of facts, and controverting statement of facts, indicating their anticipation that their motion may be converted into one for summary judgment. (Docs. 104, 105, 106, 107). Federal Defendants generally explain that the Court "may consider material that is properly submitted as part of the complaint" on their motion for judgment on the pleadings without converting the motion to dismiss into a motion for summary judgment." (Doc. 105 at 20) (internal citation and quotation omitted). They do not, however, argue how or why either

exception should be applied to their Rule 12(c) motion given that they rely on material within the administrative record. Plaintiffs argue that Federal Defendants' "Rule 12(c) arguments barely cite to Save the Colorado's complaint; instead, they rely almost exclusively on documents found in their own administrative record;" and that none of the documents cited "except perhaps for the LTEMP-FEIS itself, were referred to 'extensively' or otherwise incorporated by reference into the complaint." (Doc. 118 at 7–8.)

The Court will convert Federal Defendants' Motion for Judgment on the Pleadings to a Motion for Summary Judgment because the Court will evaluate materials outside of the pleadings.[9] Furthermore, all parties had a reasonable opportunity to present their relevant material in their respective motions. *See* Fed. R. Civ. P. 12(d), 56.

F. Summary Judgment

In reviewing motions for summary judgment under the APA, "the Court's function 'is to determine whether or not as a matter of law the evidence in the administrative record permitted the agency to make the decision it did.'" *Kirk v. Off. of Navajo & Hopi Indian Relocation*, 426 F. Supp. 3d 623, 628 (D. Ariz. 2019) (quoting *Occidental Eng'g Co.*, 753 F.2d at 769). As such, "[t]he agency, not the Court, is the fact-finder," and "summary judgment is the appropriate mechanism for deciding the legal question of whether the agency could reasonably have found the facts as it did." *Id.* at 628; *see also Burnside v. Off. of Navajo*, No. CV-15-08233-PCT-PGR, 2017 WL 4284576, at *7 (D. Ariz. Sept. 27, 2017) ("In the APA context, summary judgment is the mechanism through which the reviewing court determines as a matter of law whether the evidence in the administrative record reasonably permitted the agency to make the decision it did.").

Summary judgment is appropriate if the evidence, viewed in the light most favorable to the nonmoving party, demonstrates "that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a). A genuine issue of material fact exists if "the evidence is such that a reasonable jury could return a verdict for the nonmoving party," and material facts are those "that might affect

[9] Federal Defendants also conceded at oral argument that their motion may be converted to a motion for summary judgment without objection. (Doc. 141, Transcript at 39:18–40:2.)

the outcome of the suit under the governing law." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). At the summary judgment stage, "[t]he evidence of the non-movant is to be believed, and all justifiable inferences are to be drawn in his favor." *Id.* at 255 (internal citations omitted); *see also Jesinger v. Nev. Fed. Credit Union*, 24 F.3d 1127, 1131 (9th Cir. 1994) (holding that the court determines whether there is a genuine issue for trial but does not weigh the evidence or determine the truth of matters asserted).

When, as is the case here, "parties submit cross-motions for summary judgment, each motion must be considered on its own merits." *Fair Hous. Council of Riverside Cnty., Inc. v. Riverside Two*, 249 F.3d 1132, 1136 (9th Cir. 2001) (citations and internal quotations omitted). The summary judgment standard operates differently depending on whether the moving party has the burden of proof. *See Celotex Corp. v. Catrett*, 477 U.S. 317, 322–23 (1986). As the party with the burden of proof, Plaintiffs "must establish beyond controversy every essential element" of their claims based on the undisputed material facts to be entitled to summary judgment. *S. Cal. Gas Co. v. City of Santa Ana*, 336 F.3d 885, 888 (9th Cir. 2003). The Department and the other Intervenors, by contrast, must merely establish that Plaintiffs cannot make out a prima facie case in consideration of the undisputed material facts. *Celotex*, 447 U.S. at 322–23.

III. CROSS-MOTIONS FOR SUMMARY JUDGMENT

A. Standing

The Court will first address whether Plaintiffs have standing before addressing the parties' arguments.

Plaintiffs assert they have Article III standing to bring this action. (Doc. 92 at 13–14.) Neither Federal Defendants, nor the other Intervening Parties argue otherwise. (Docs. 105, 111, 113, 115, 126, 128.) Accordingly, and in the absence of a response from Federal Defendants or the Intervening Parties, the Court will briefly address Plaintiffs' arguments. *See Tapestry on Cent. Condo. Ass'n v. Liberty Ins. Underwriters Inc.*, No. CV-19-01490-PHX-MTL, 2021 WL 1171504, at *14 (D. Ariz. Mar. 29, 2021) (collecting cases deeming a party's lack of response as a concession of the validity of an opposing party's argument

on the merits). For the reasons below, the Court finds that Plaintiffs have standing.

The "irreducible constitutional minimum of standing" consists of three components. *Lujan v. Defs. of Wildlife*, 504 U.S. 555, 560 (1992). The party invoking federal jurisdiction must prove that: "(1) it has suffered an 'injury in fact' that is (a) concrete and particularized and (b) actual or imminent, not conjectural or hypothetical; (2) the injury is fairly traceable to the challenged action of the defendant; and (3) it is likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision." *Friends of the Earth, Inc. v. Laidlaw Env't Servs. (TOC), Inc.*, 528 U.S. 167, 180–81 (2000) (citing *Lujan*, 504 U.S. at 560–61). For an association to have standing to bring suit on behalf of its membership, the members must "otherwise have standing to sue in their own right," the interests at stake must be "germane to the organization's purpose," and "neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit." *Id.* Here, the relevant showing is "not the injury to the environment but injury to the plaintiff." *Id.*; *see also Inland Empire Waterkeeper v. Corona Clay Co.*, 17 F.4th 825, 832 (9th Cir. 2021) (finding injury-in-fact and causation through the declarations of members of an environmental group who frequently use the creek for recreational or academic purposes and who noticed a decrease in the creek conditions).

Plaintiffs allege that their members "have suffered aesthetic and recreational injuries" because they are unable to boat, camp, hike, swim, and observe animal species along the Colorado River and its tributaries. (Doc. 92 at 13.) For example, Save the Colorado member Daniel Beard avers that he "used to do float trips with [his] brother-in-law" but is unable to do so anymore "because of the reduced water flows and . . . [his] ability to access the river without difficulty." (Doc. 97 ¶ 17.) Similarly, Beverly Kutz, also a member of Save the Colorado, declares she "visit[s] the Colorado River and the surrounding area to raft, hike, photograph, birdwatch, camp, and swim at least once a year" but has experienced "erosion of beaches below the [Glen Canyon] dam," and has experienced negative effects on the "color and temperature of the water" because of the dam. (Doc. 98 ¶¶ 7, 10, 11.)

Living Rivers member Tom Martin declares that he has "personally observed the harmful effects of the Glen Canyon Dam on the Colorado River and the surrounding ecosystem," and they have impacted his "ability to use and enjoy those areas . . . [f]or example . . . [the] loss of natural sediment has made it more difficult to camp on raft trips and made it easier for pesky bugs and flies to proliferate, which reduces my enjoyment of my river experiences." (Doc. 99 ¶ 8.)

Center for Biological Diversity member Robin Silver declares that she visits "Lake Powell and the Colorado River near and downstream from Glen Canyon Dam approximately two to three times per year" and that she has "witnessed the degradation of the riparian corridor and the surrounding habitat as a result of Glen Canyon Dam" that has "impacted the feasibility of my recreating both above and below Lake Powell . . . ." (Doc. 100 ¶¶ 8, 10.)

The Court finds that these sworn statements, and the others in the record, "adequately document[] an injury in fact." *Friends of the Earth, Inc.*, 528 U.S. at 183 (further explaining that "[w]e have held that environmental plaintiffs adequately allege injury in fact when they aver that they use the affected area and are persons 'for whom the aesthetic and recreational values of the area will be lessened' by the challenged activity").

"Once a plaintiff has established an injury in fact under NEPA, the causation and redressability requirements are relaxed." *Cantrell v. City of Long Beach*, 241 F.3d 674, 682 (9th Cir. 2001). As for causation, Plaintiffs' members have established that their injuries—loss of aesthetic values and recreational activities—are "fairly traceable" to the Federal Defendants' actions in approving the FEIS and ROD for the LTEMP. *See, e.g., All. for the Wild Rockies v. U.S. Dep't of Agric.*, 772 F.3d 592, 600 (9th Cir. 2014). With respect to redressability, a plaintiff "who asserts inadequacy of a government agency's environmental studies under NEPA," like Plaintiffs do here, "need not show that further analysis by the government would result in a different conclusion." *Hall v. Norton*, 266 F.3d 969, 977 (9th Cir. 2001) (internal citation omitted).

B. Claim One

1. Plaintiffs' Arguments

Plaintiffs argue Reclamation failed to take a "hard look" at the environmental impacts of climate change in the FEIS because its analysis of the impacts of climate change on the Colorado River and Glen Canyon Dam relied upon incomplete and outdated data, rather than modern climate science. (Doc. 92 at 15–16, 18, 21.) Plaintiffs argue "Reclamation's reliance on historic trace data to model climate futures renders its environmental analysis insufficient because the information is too stale to support the weight assigned to it." (*Id.* at 23.) Plaintiffs rely on two Ninth Circuit cases to support this proposition—*Northern Plains Resource Council, Inc. v. Surface Transportation Board*, 668 F.3d 1067, 1086 (9th Cir. 2011) and *Lands Council v. Powell*, 395 F.3d 1019, 1031 (9th Cir. 2005).

Plaintiffs also argue that the FEIS does not comply with Reclamation's 2012 Study because the FEIS "does not provide a fully-fledged analysis of effects of climate change for the proposed action, and uses deficient data sets to project future flows which do not represent the full range of possible outcomes." (*Id.* at 15.) Specifically, Plaintiffs take issue with the following agency actions. First, Reclamation refused to analyze "projected flows significantly lower than any flows based on historic data" in the FEIS. (*Id.* at 16; AR004454.) Second, "the potential discrepancies between water supply and demand could be larger than the 2012 Study anticipates if mean temperatures continue to increase, which most experts expect . . . so the 2012 Study likely understated the impact of future climate change on Colorado River flows." (*Id.* at 17.) Third, during the public comment period for the draft EIS, Save the Colorado "submitted comments detailing its concern that the operations of the Glen Canyon Dam, in conjunction with climate change, would increase the likelihood of a compact call on the Colorado River, and that the draft EIS did not satisfy NEPA because it lacked an adequate analysis of the impacts of climate change." (*Id.* at 18.) Fourth, the FEIS used "historical data to make its climate projections and compare the impacts of alternatives it considered" by "gathering traces in 20-year segments every five

years starting with the earliest historical data in 1906." (*Id.*) Fifth, when Plaintiffs raised concerns about Reclamation using "the 112 climate projections from its Climate Change Scenario from the 2012 Study to weight [sic] the drier trace segments relative to the frequency of their occurrence in those 112 projections," Reclamation erred when it responded that "its depth of analysis of climate change in the basin, and the impacts of the proposed alternatives in light of those changes was sufficient because of 'insufficient data to drive the complex suite of models.'" (*Id.* at 19.) Finally, Plaintiffs submitted supplemental comments on the FEIS, which included: (1) an informal report, (2) a "reference to a then-in-review study" that was later published by members of the Colorado Research Group, and (3) a presentation. (*Id.* at 19–20.) To Plaintiffs' dismay, Reclamation "did not address this new science" but "claimed that the 2012 Study, whose climate change projections are not fully utilized by the FEIS, 'is still relevant to the analysis of the impacts of the LTEMP over the next 20 years.'" (*Id.* at 20.)

Plaintiffs also argue that the Federal Defendants "cannot use 'uncertainty' as a reason not to analyze impacts where there is at least some data available to do so" and that an "agency's NEPA analysis cannot selectively ignore its own experts or studies without offering a rational explanation." (*Id.* at 22.) And that Federal Defendants did so, violating Ninth Circuit law, when the FEIS "itself acknowledges that it did not give climate change a fully-fledged and adaptive analysis, insisting that the 'magnitude of these changes is uncertain.'" (*Id.*) Plaintiffs further argue that "given the [Reclamation's] treatment of climate change as some immeasurable 'uncertainty' throughout the FEIS, it is clear that the agency's 'area of special expertise' does not include climate science" and, as such, "significant deference" should not be afforded to Federal Defendants. (*Id.* at 24.)

2. Federal Defendants' Arguments

Federal Defendants argue that "the LTEMP does not control volumes of water released annually from Lake Powell that are affected by climate change" and that "Congress passed the [GCPA] in response to concerns regarding the effect of Dam operations on downstream resources, it expressly stated that operations under the [GCPA]

must be consistent with the 1968 Act and meet the project purposes of the Dam." (Doc. 105 at 21.) Further, when looking at both the 1968 Act and GCPA, they "limit the adaptive management operations of the LTEMP to variations that only affect hourly, daily, and monthly releases" and "not annual releases." (*Id.*)

Federal Defendants argue, "annual volume determinations are presently implemented through LROC as currently implemented through the 2007 Interim Guidelines" and "[c]onsistent with the [GCPA], any changes to annual volume determinations are beyond the scope of [the LTEMP] NEPA analysis." (*Id.*; Doc. 106 ¶ 39; AR005951–52.) "Accordingly, the Proposed Action in the draft EIS does not require the Federal agencies (NPS and [Reclamation]) to either create a plan for providing water to the Colorado River in Grand Canyon during extended drought periods or develop a basin wide plan for the operations of all dams." (Doc. 105 at 21–22; Doc. 106 ¶ 39; AR005951–52.) Put differently, Federal Defendants argue that the "LTEMP simply has no bearing on the annual volumes of water released from the Glen Canyon Dam, and consideration of drought impacts on these annual releases exceed the scope of the proposed action." (Doc. 105 at 22.) This is because, "the LTEMP provides for the amount of water to be released each month based on" the "total annual volume," which is determined by the 2007 Interim Guidelines. (*Id.*)

Federal Defendants also argue that although climate change "may well have an effect on the annual volume determinations in the future . . . it will not change the operations of the LTEMP, which controls the hourly, daily, and monthly releases." (Doc. 105 at 23.) Therefore, "[b]ecause the LTEMP does not determine or control the annual volume of water released from Glen Canyon Dam, it was beyond the scope of the proposed action to review under NEPA the effects of climate change on the total amounts of water released each year." (*Id.*)

In the alternative, Federal Defendants argue they performed their requisite hard look and evaluated the environmental impacts of the LTEMP and the "FEIS specifically relied on modeling to assess the effect of climate change on LTEMP Alternatives." (*Id.* at 31;

AR004050–52.)

3. Intervenors' Arguments

The Intervening Parties—the States, Hydropower Providers, and Lower Basin Contractors—all argue that Plaintiffs' claims jeopardize the rights and interests for their constituencies, particularly the hydropower and power stakeholders. (Docs. 111-1, 113, 115.) They also join all Federal Defendants' arguments. (Docs. 111-1, 113, 115.) Because their arguments apply to all of Plaintiffs' claims, the Court addresses the specific arguments raised by the Intervenors that were not raised by Federal Defendants here.

The States argue that they "face significant harm from the Plaintiffs' efforts to distort the LTEMP as a means to impair Glen Canyon Dam operations that are designed to safeguard the States' property and pecuniary interests in the Basin." (Doc. 115 at 16.) Specifically, "each State was involved in the development of legislation, which directs the Secretary to operate Glen Canyon Dam 'in such a manner as to protect, mitigate adverse impacts to, and improve the values for which Grand Canyon National Park and Glen Canyon National Recreations Area were established.'" (*Id.* (citing GCPA at § 1802(a)).)

The Lower Basin Contractors seek judgment in favor of Federal Defendants and the Intervenors because they "serve up to 75 percent of the approximately 40 million people in their service areas within the states of Arizona, Nevada, and California, who rely on Colorado River" and they, "along with all stakeholders on the river rely on the Federal Defendants' management to provide supply reliability and to distribute all resources in accordance with the Law of the River." (Doc. 111-1 at 2.)

The Hydropower Providers argue "Plaintiffs are incorrect that hydroelectric power generation is merely an 'incidental' benefit of the [Colorado River Storage Project] and is not a statutory purpose that [the Department] must consider in developing and implementing the LTEMP" because the Colorado River Storage Project Act of 1956 "explicitly lists hydroelectric power generation among the purposes [Department] must carry out when constructing and operating the [Colorado River Storage Project]." (Doc. 113 at 16.) The Hydropower Providers also dispute Plaintiffs' assertion that the selected

alternative, Alternative D, was prioritized because it is "pro-hydropower." Hydropower Providers instead argue Alternative D "and all action alternatives (except Alternative B) would cause negative effects to hydroelectric power generation as compared to the 'status quo.'" (Doc. 113 at 18.)

4. Analysis

NEPA "provides the necessary process to ensure that federal agencies take a hard look at the environmental consequences of their actions." *Neighbors of Cuddy Mountain v. Alexander*, 303 F.3d 1059, 1070 (9th Cir. 2002) (citations omitted). "NEPA has twin aims." *Balt. Gas & Elec.*, 462 U.S. at 97. First, it obligates an agency "to consider every significant aspect of the environmental impact of a proposed action." *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 553 (1978). Second, it "ensures that the agency will inform the public that it has indeed considered environmental concerns in its decision[-]making process." *Balt. Gas & Elec.*, 462 U.S. at 97. To accomplish this goal, NEPA requires agencies to take a "hard look" at the environmental consequences of any major action. *Id.*; *see also Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976). "Other statutes may impose substantive environmental obligations on federal agencies, but NEPA merely prohibits uninformed—rather than unwise—agency action." *Methow Valley*, 490 U.S. at 351. Insofar as "the statute requires that agencies assess the environmental consequences of federal projects by following certain procedures during the decision-making process[,]" NEPA's "mandate 'is essentially procedural[.]'" *City of Alexandria v. Slater*, 198 F.3d 862, 866 (D.C. Cir. 1999) (quoting *Vermont Yankee*, 435 U.S. at 558).

"An agency's primary duty under the NEPA is to take a hard look at environmental consequences." *Pub. Utils. Comm'n v. FERC*, 900 F.2d 269, 282 (D.C. Cir. 1990) (internal citations and quotations omitted). "Since NEPA requires the agency to take a hard look at environmental consequences before taking a major action, the judiciary must see that this legal duty is fulfilled." *Found. on Econ. Trends v. Heckler*, 756 F.2d 143, 151 (D.C. Cir. 1985) (internal citations and quotations omitted); *see also Sierra Club v. Peterson*, 717 F.2d 1409, 1413 (D.C. Cir. 1983) ("[T]he court must insure that the agency took a 'hard

look' at the environmental consequences of its decision."). "Although the contours of the 'hard look' doctrine may be imprecise," a court must at a minimum "'ensure that the agency has adequately considered and disclosed the environmental impact of its actions and that its decision is not arbitrary and capricious.'" *Nevada v. Dep't of Energy*, 457 F.3d 78, 93 (D.C. Cir. 2006) (quoting *Balt. Gas & Elec.*, 462 U.S. at 97–98).

Because NEPA does not contain a standard for judicial review of agency actions, the Court must evaluate the administrative decisions of Federal Defendants under the APA. *See Akiak Native Cmty. v. U.S. Postal Serv.*, 213 F.3d 1140, 1144 (9th Cir. 2000) (APA standard used in reviewing NEPA claim). The Court may set aside an agency's decision under the APA only if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A); *Pac. Coast Fed'n of Fishermen's Ass'n, Inc. v. Nat'l Marine Fisheries Serv.*, 265 F.3d 1028, 1034 (9th Cir. 2001). "Agency action should be overturned only when the agency has 'relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.'" *Id.* (quoting *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)). "This standard of review is highly deferential, presuming the agency action to be valid and affirming the agency action if a reasonable basis exists for its decision." *Nw. Ecosystem All. v. U.S. Fish & Wildlife Serv.*, 475 F.3d 1136, 1140 (9th Cir. 2007) (internal citation and quotation omitted).

Accordingly, "[t]he role of the courts is simply to ensure that the agency has adequately considered and disclosed the environmental impact of its actions and that its decision is not arbitrary or capricious." *Balt. Gas & Elec.*, 462 U.S. at 97–98. The scope of this Court's review is "quite narrow." *Akiak Native Cmty.*, 213 F.3d at 1146. The Court must generally "defer to the informed discretion of the responsible federal agencies." *Id.* (quoting *Marsh v. Oregon Nat. Res. Council*, 490 U.S. 360, 377 (1989)) (internal quotations omitted). This standard accounts for the agency's substantive expertise, to

which the Court accords "a presumption of regularity." *Id.* (quoting *Citizens to Pres. Overton Park*, 401 U.S. at 415) (internal quotations omitted).

At the outset, the Court finds that the record demonstrates that the LTEMP manages monthly, daily, and hourly releases. (AR000055; AR003687–88.) The record also demonstrates that the 2007 Interim Guidelines governs annual releases, and that the LTEMP is constrained by the 2007 Interim Guidelines. (AR005951.) Specifically, the 1968 Colorado River Basin Project Act prescribes the annual water releases, 43 U.S.C. §§ 1501, 1552, and the annual volume determinations called for under that statute are implemented through the LROC which was adopted by the Secretary in 1970 and later, the 2007 Interim Guidelines. (Doc. 106 ¶ 39; Doc. 119 ¶ 39; AR005951–52). Further, when Congress passed the GCPA in response to concerns regarding the effect of Dam operations on downstream resources, it expressly stated that operations under the GCPA must be consistent with the 1968 Colorado River Basin Project Act and meet the project purposes of the Dam. *See* Reclamation Projects Authorization and Adjustment Act of 1992, Pub. L. No. 102-575, 106 Stat. 4600, § 1802(b). Reading both the 1968 Colorado River Basin Project Act and the GCPA together, Congress sought to limit the adaptive management operations of the LTEMP to variations that only affect hourly, daily, and monthly releases—not annual releases, which were implemented by the LROC and 2007 Interim Guidelines. To further support this, Federal Defendants rely on *Grand Canyon Tr. v. U.S. Bureau of Reclamation*, specifically, the Court's rejection of the plaintiff's eighth claim where they contested the validity of the 2008 experimental plan under the GCPA. 623 F. Supp. 2d 1015, 1035–37 (D. Ariz. 2009). In that case, the plaintiff alleged that a 2008 Experimental Plan that included a "modified low fluctuating flow" system through the Dam violated the GCPA. *Id.* at 1024, 1035. The Court found that the plaintiff failed to show any violation of "the broad directives of the GCPA, particularly in light of the highly deferential approach the Court must take under the APA." *Id.* at 1036 (internal citations and quotations omitted).

The same is true here. Plaintiffs fail to show that the Department had to take a "hard look" at climate change in its drafting of the LTEMP FEIS, particularly given "the broad

directives of the GCPA" and "the highly deferential approach the Court must take under the APA." *Id.*

For these reasons, the Court agrees with Federal Defendants that "[b]ecause the LTEMP does not determine or control the annual volume of water released from Glen Canyon Dam, it was beyond the scope of the proposed action to review under NEPA the effects of climate change on the total amounts of water released each year." (Doc. 105 at 23.) Although the Court agrees with Federal Defendants on this issue, the Court still analyzes why Plaintiffs have failed to meet their burden that Federal Defendants have violated NEPA, and that Federal Defendants have indeed performed the requisite "hard look" at environmental impacts.

Plaintiffs, who bear the burden here, have not shown that Federal Defendants "failed to take the requisite hard look at the impacts of the proposed action," (Doc. 1 ¶ 133.) Plaintiffs' arguments that Reclamation's reliance on historic trace data was improper and stale, that Federal Defendants cannot use uncertainty, and that the FEIS does not comply with Reclamation's 2012 Study all fall short.

As the Department stated in its ROD, "[t]he analysis presented in the FEIS was specifically intended to determine the sensitivity of the alternatives to different climate outcomes." (AR000132–33; AR004453.) Federal Defendants treat climate change as an "external uncertainty," in the LTEMP FEIS to account for "this uncertainty by not using the models to attempt 'to predict future river and reservoir conditions, but rather to project the range of possible effects.'" (Doc. 105 at 31; AR004051). By doing this, the LTEMP FEIS "analyzed how robust the alternatives would be to climate change-driven hydrologic and sediment inputs," but without the need to forecast exactly what future river and reservoir conditions would be, which is within the agency's authority. (Doc. 106 ¶ 35; Doc. 119 ¶ 35; AR004453–54.) To perform this analysis, the LTEMP FEIS describes how it "used the historic hydrology as its basis, but gave greater weight to drier years to represent their expected increased frequency of occurrence under a climate-change scenario." (Doc. 106 ¶ 36; Doc. 119 ¶ 36; AR004459.) The Department used historic hydrologic examples,

known as "traces" from the period of record 1906-2010. (Doc. 106 ¶ 30; Doc. 119 ¶ 30; AR004452.) These 21 traces were sample hydrologic data from the full range of the 105-year historical flow record. (Doc. 106 ¶ 30; Doc. 119 ¶ 30; AR004452.) The Department considered the 21 traces to represent the increased frequency of drier hydrologies, which are projected as part of climate change. (Doc. 106 ¶ 30; Doc. 119 ¶ 30; AR004452, AR0004455 (figure 4.16-1, showing weights used to reflect the expected frequency of hydrologic conditions under climate change)). These weighted traces were then used to compare the LTEMP alternatives across the affected resource areas. (Doc. 106 ¶ 35; Doc. 119 ¶ 35; AR004453–54.) The result of this comparison allowed the LTEMP FEIS to describe the differences in performance of the alternatives across the affected resource area downstream of the Dam. (Doc. 106 ¶ 35; Doc. 119 ¶ 35; AR004453–54.) The LTEMP FEIS disclosed that its modeling approach "underestimated the occurrence of the driest years, but it allows a determination of the robustness of the alternatives to climate-change uncertainty." (Doc. 106 ¶ 36; Doc. 119 ¶ 36; AR004459.) The FEIS further observed that "the 21 hydrologic traces were not representative of the full range of expected inflow variation under a climate-change scenario and did not include the driest traces expected under climate change . . . [a]bout 30% of the forecast distribution was not captured by the historic traces." (Doc. 106 ¶ 35; Doc. 119 ¶ 35; AR004453–54.)

Nonetheless, the LTEMP FEIS ultimately concludes that the under-estimation in dry conditions was not significant for purposes of the reliability of the analysis considering the modest differences in the environmental effects modeled in the different alternatives relative to climate change. Despite Plaintiffs' contentions, the FEIS's modeling approach satisfies the NEPA modeling standards because NEPA "requires up-front disclosures of relevant shortcomings in the data or models." *Lands Council*, 395 F.3d at 1032 (concluding that the agency relied heavily on a computer model but did not adequately disclose the model's shortcomings) (internal citations omitted). Such disclosures did, however, occur here because the Department explained the underestimation of the driest years, noted several uncertainties projecting the climate change effects, and then ultimately explained

why these limitations were not significant for purposes of its climate change modeling. (Doc. 106 ¶¶ 35, 36; Doc. 119 ¶¶ 35, 36; AR004453–54; AR004459.) The LTEMP FEIS complies with NEPA because the LTEMP FEIS discloses the limitations of its analysis and determined that the comparative value of the modeling allowed analysis of the alternatives. *See Lands Council*, 395 F.3d at 1031; *see also Greater Yellowstone Coal. v. Lewis*, 628 F.3d 1143, 1151–52 (9th Cir. 2010) (affirming district court for determining "that the agencies appropriately disclosed all relevant uncertainties" and did not violate NEPA).

Moreover, the LTEMP FEIS ultimately concludes that such a modeling approach allows for a comparison of how robust the alternatives would be with regard to their impact on resources under climate change. (Doc. 106 ¶ 35; Doc. 119 ¶ 35; AR004453.) As explained in the LTEMP FEIS:

> These differences in hydrology would influence the relative effect of LTEMP alternatives on resources, but, in general, the analysis conducted for this EIS indicates the differences would be relatively small (<5%) and not differ greatly among alternatives. . . . [u]nder climate change, the impacts of most or all LTEMP alternatives would be less on sediment resources, humpback chub, trout, riparian vegetation, Grand Canyon cultural resources, Tribal values, and most recreation metrics, but there would be a reduction in the value of hydropower generation and capacity and an increase in impacts on Glen Canyon cultural resources.

(Doc. 106 ¶ 37; Doc. 119 ¶ 37; AR004461.) The LTEMP FEIS's analysis demonstrates that the relative performance of the alternatives across the affected resource areas was not sensitive enough to climate change inputs to warrant further modeling.

Plaintiffs' other argument, that because Reclamation uses "uncertainty" in parts of its analysis means that the agency's "area of special expertise" does not include climate science and should not be afforded "significant deference," also fails. At oral argument, Plaintiffs conceded that they do believe "the Agency has expertise in climate change" and "has the ability to do the assessment that we're asking." (Doc. 141, Transcript at 17:15–17.) Deference to an agency's technical expertise and experience, like the Department here,

"is particularly warranted with respect to questions involving . . . scientific matters." *United States v. Alpine Land & Reservoir Co.*, 887 F.2d 207, 213 (9th Cir. 1989); *see also Kleppe*, 427 U.S. at 412 ("Absent a showing of arbitrary action, [the Court] must assume that the agencies have exercised this discretion appropriately."). Plaintiffs have made no showing to the contrary and deference to the agency, its technical expertise, and the opinions of its own qualified experts is warranted here. *Lara v. Sec'y of Interior of U.S.*, 820 F.2d 1535, 1542 (9th Cir. 1987) (deferring to agency's expertise in determining what constitutes a mineral discovery).

The Court concludes that Federal Defendants took the requisite "hard look" at, and provided a "reasonably thorough discussion" of, the "probable environmental consequences" of the proposed action. *State of Cal. v. Block*, 690 F.2d 753, 761 (9th Cir. 1982). Plaintiffs' motion for summary judgment on their first claim is, therefore, denied and Federal Defendants' and State Intervenors' cross-motions for summary judgment are granted.

C. Claim Two – The Purpose and Need Statement

1. Plaintiffs' Arguments

Plaintiffs take issue with Reclamation's handling of the FEIS's purpose and need statement and argue that it was improper for Reclamation "to both draft and interpret the [purpose and need statement] for its FEIS to limit its discussion of climate change impacts and restrict its consideration of alternatives only to those currently authorized by the Law of the River and consistent with maintaining near current levels of average daily hydropower generation." (Doc. 92 at 28.) Plaintiffs argue that the purpose and need statement should have (1) been more broad, (2) included the need to adaptively manage the Dam "under all projected climate change conditions, such as water scarcity due to hot droughts," (3) improperly "looked only at historic projections for its climate analysis and its development and comparisons of alternatives," and (4) improperly "emphasizes hydroelectric power generation as a primary purpose, equating it with resource protection and water delivery obligations." (*Id.*) Plaintiffs argue that under federal law, the

"production of hydroelectric power is subservient to the primary objectives of allocating watershed resources for beneficial use and consumption." (*Id.* at 29.)

2. Federal Defendants' Arguments

Federal Defendants argue that the Department "properly defined the purpose and need for the LTEMP in the context of the statutory laws and congressional directives in which it must operate" and "the LTEMP is applied within the context of the annual volume determinations of water prescribed by the complex framework of laws known as the Law of the River; the LTEMP does not determine those annual volumes." (Doc. 105 at 24.) Therefore, "it was not the purpose of the LTEMP to consider wholesale changes to annual operations in response to reductions in annual amounts of water available because of drought, even extreme drought due to climate change." (*Id.*)

Federal Defendants also argue that although "the 1956 Act refers to hydropower production as an 'incident' to other authorized purposes, hydropower is nonetheless an expressly authorized purpose of Glen Canyon Dam." (*Id.* at 25 (quoting 43 U.S.C. § 620).) The 1956 Act, moreover, states "the Glen Canyon Dam powerplant is to be operated 'so as to produce the greatest practicable amount of power and energy that can be sold at firm power and energy rates.'" (*Id.* at 25 (quoting 43 U.S.C. § 620(f)).) Furthermore, had the Department "ignored the purpose of power generation in the LTEMP, such a clear omission would have been inconsistent with the relevant, governing statutes applicable to Glen Canyon Dam." (Doc. 105 at 25–26.)

3. Analysis

Courts have "afforded agencies considerable discretion to define the purpose and need of a project." *Friends of Southeast's Future v. Morrison*, 153 F.3d 1059, 1066 (9th Cir. 1998) (citing *City of Angoon v. Hodel*, 803 F.2d 1016 (9th Cir. 1986)). Preparing an EIS "necessarily calls for judgment, and that judgment is the agency's." *Lathan v. Brinegar*, 506 F.2d 677, 693 (9th Cir. 1974). But this discretion is not unlimited. *Friends of Southeast's Future*, 153 F.3d at 1066. Courts evaluate a purpose and need statement under a reasonableness standard. *Id.* at 1066–67. "Where an action is taken pursuant to a

specific statute, the statutory objectives of the project serve as a guide by which to determine the reasonableness of objectives outlined in an EIS." *Westlands Water Dist. v. U.S. Dep't of Interior*, 376 F.3d 853, 866 (9th Cir. 2004) (citing *City of New York v. U.S. Dep't of Transp*., 715 F.2d 732, 743 (2d Cir. 1983)).

NEPA requires agencies to "briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." 40 C.F.R. § 1502.13. Courts afford agencies "considerable discretion to define the purpose and need of a project." *Westlands Water Dist.*, 376 F.3d at 866 (citation omitted). The purpose and need of the project need only be reasonable. *Id.* In defining the purpose and need the agency may consider the context of the action proposed. *Alaska Survival v. Surface Transp. Bd*., 705 F.3d 1073, 1085 (9th Cir. 2013). Factors relevant to the action's objective include "the needs and goals of the parties involved" and "the views of Congress, expressed, to the extent that the agency can determine them, in the agency's statutory authorization to act, as well as in other congressional directives." *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 196 (D.C. Cir. 1991).

As explained above, the purpose and need statement for the LTEMP establishes several goals: (1) to provide a "comprehensive framework for adaptively managing Glen Canyon Dam over the next 20 years consistent with the [GCPA] and other provisions of applicable federal law"; (2) to help specific Dam operations and improve "adverse impacts on the downstream natural, recreational, and cultural resources in the two park units, including resources of importance to American Indian Tribes" while meeting the GCPA's requirements; and (3) to use scientific information developed since the 1996 ROD to better inform the Department regarding Dam operations "so that the Secretary may continue to meet statutory responsibilities for protecting downstream resources for future generations, conserving species listed under the Endangered Species Act . . . protecting the interests of American Indian Tribes, while meeting obligations for water delivery and the generation of hydroelectric power." (Doc. 106 ¶ 2; Doc. 119 ¶ 2; AR003659–60).

The GCPA guides the purpose and need statement, and therefore the Court looks

there to "serve as a guide by which to determine the reasonableness of objectives outlined in an EIS." *Westlands Water Dist.*, 376 F.3d at 866. The GCPA requires the Secretary to "project, mitigate adverse impacts to, and improve the values for which Grand Canyon National Park and Glen Canyon National Recreation Area were established, including, but not limited to natural and cultural resources and visitor use." Reclamation Projects Authorization and Adjustment Act of 1992, Pub. L. No. 102–575, § 1802(a). And to do so "in a manner fully consistent with and subject to the Colorado River Compact, the Upper Colorado River Basin Compact, the Water Treaty of 1944 with Mexico, the decree of the Supreme Court in Arizona v. California, and the provisions of the Colorado River Storage Project Act of 1956 and the Colorado River Basin Project Act of 1968," which govern the "allocation, appropriation, development, and exportation of the waters of the Colorado River Basin." *Id.* at § 1802(b).

Plaintiffs fail to meet their burden to show that the purpose and need statement is unduly narrow, and that Federal Defendants were required to create a broader purpose and need statement that incorporates climate change conditions. (Docs. 92, 118.) The LTEMP is applied within the boundaries of the annual volume determinations of water prescribed by the Law of the River and the LTEMP does not determine those annual volumes. Accordingly, it is not the purpose of the LTEMP to consider wholesale changes to annual operations in response to reductions in annual amounts of water available because of drought, even extreme drought due to climate change. Rather, the purpose of the LTEMP is much more limited in scope and seeks to manage the impacts of hourly, daily, and monthly releases of water to maintain and promote the natural, recreational, and cultural resources in Grand Canyon National Park and Glen Canyon National Recreation Area consistent with the GCPA. (AR003659–60.) To implement the LTEMP, the ROD describes the decision-making sequence where first an annual volume is determined under the 2007 Interim Guidelines. (Doc. 106 ¶ 14; Doc. 119 ¶ 14; AR Ref-056526.) Once the annual volume is determined, the monthly release is determined pursuant to the LTEMP ROD. (Doc. 106 ¶ 44; Doc. 119 ¶ 44; AR00055.)

Further, the Court disagrees with Plaintiffs' contention that the purpose and need statement "improperly elevated the generation of hydroelectric power" and that hydropower is "only incidental to [Reclamation's] primary resource protection and water delivery obligations." (Doc. 92 at 16.) First, the purpose and need statement lists several goals, and merely one subpart of one goal seeks to meet "obligations for water delivery and the generation of hydroelectric power." (Doc. 106 ¶ 2; Doc. 119 ¶ 2; AR003659–60.) Next, the 1956 Colorado River Storage Act, which Federal Defendants must adhere to, mandates that the Dam:

> [P]roduce the greatest practicable amount of power and energy that can be sold at firm power and energy rates, but in the exercise of the authority hereby granted [the Secretary] shall not affect or interfere with the operation of the provisions of the Colorado River Compact, the Upper Colorado River Basin Compact, the Boulder Canyon Project Act, the Boulder Canyon Project Adjustment Act, and any contract lawfully entered into under said Compacts and Acts

43 U.S.C. § 620f.

Here, Congress requires Dam operations to produce as much power and energy "to the greatest practicable amount" all while adhering to federal law. If Federal Defendants do not adhere to the 1956 Colorado River Storage Act, they will violate the law.

The Court finds that Federal Defendants exercised their judgment appropriately and reasonably, given their statutory obligations pursuant to the 1956 Colorado River Storage Act and the GCPA, when creating and implementing the purpose and need statement. *Lathan*, 506 F.2d at 693; *Friends of Southeast's Future*, 153 F.3d at 1066–67. Here, the purpose and need statement "reasonably defined the objectives of the project; the preparers did not arbitrarily or capriciously narrow the scope of the Statement." *Westlands Water Dist.*, 376 F.3d at 868. As to Plaintiffs' second cause of action, Plaintiffs' motion for summary judgment will be denied and summary judgment will be granted in favor of the Federal Defendants and State Intervenors.

D. Claim Three – Plaintiffs' Proposed Alternatives

1. Plaintiffs' Arguments

Plaintiffs argue that the seven alternatives described in the FEIS were nearly identical, violating NEPA, because "the difference in average daily power generation between [them were] less than 2%," none of the alternatives "contemplate Dam operations in light of climate change," or "align management of the Dam with the lowest projections of water quantity from the 2012 Study," and "none include any measures to protect downstream resources in light of reasonably foreseeable climate change impacts." (Doc. 92 at 19–20 (citing *Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 813–14 (9th Cir. 1999)).) Plaintiffs also take issue that the FEIS "mentions eleven additional alternatives that were 'considered and eliminated from detailed study'—three of which were brought forward by the [sic] Save the Colorado" and that they "refused to meaningfully consider or evaluate" them. (Doc. 92 at 31; AR003776–80.)

The first alternative raised by Plaintiffs, Fill Lake Mead First, "allows for the primary water storage to shift from Lake Powell to Lake Mead, making Lake Powell a backup for season and flood control purposes." (*Id.*; AR003780.) This proposed alternative "return[s] the Colorado River to a more natural state" and "minimize[s] the amount of methane and other GHGs produced from having two reservoirs." (*Id.*; AR003780.) It would also "allow for less water loss from evaporation and seepage and allow greater flexibility in implementing future Grand Canyon restoration strategies." (*Id.*; AR003780.)

Plaintiffs' second alternative, Run-of-the-River, proposes "re-engineering the Glen Canyon Dam to operate as a 'modified run-of-the-river' facility" and "would restore natural water and sediment flows to the 'greatest extent possible,' by either reconnecting older river bypass tunnels or constructing new tunnels that bypass the Glen Canyon Dam." (Doc. 92 at 31–32; AR003780.)

Plaintiffs' third alternative, Decommission Glen Canyon Dam, "proposes the Dam be either decommissioned and left in place or removed entirely." (Doc. 92 at 32; AR003779.)

Plaintiffs argue that although their proposed alternatives "change the status quo of Dam operations" it "does not render them unreasonable." (Doc. 92 at 32.) They further argue that Reclamation erred when it "stated without explanation that the suggested alternatives did not comply with 'other federal requirements'" because the Ninth Circuit has held "that when considering all reasonable alternatives, an EIS may need to consider those that would require a change in law." (*Id.* at 32–33.)

2. Federal Defendants' Arguments

Federal Defendants argue that the "LTEMP statement of purpose and need was not so narrow that it foreclosed consideration of reasonable alternatives." (Doc. 105 at 26.) They argue that the "seven alternatives considered for the proposed action examined various releases of water on an hourly, daily and monthly basis that balanced the need to protect and preserve the downstream natural, recreational, and cultural resources while still adhering to the Law of the River requirements." (*Id.*) Federal Defendants also argue "the ROD noted that the LTEMP alternatives analysis 'determined that uncertainty in climate futures would not change the relative performance of the alternatives; therefore, it would not change the selection of [LTEMP] for implementation'" and Plaintiffs inappropriately "seize on the word 'uncertainty' to argue that [the Department] failed to take a hard look at climate change because of the magnitude of future changes in the climate is uncertain." (*Id.* at 27; AR000132–33.) Further, that the language in the ROD means that the Department's "acknowledgement of uncertainty in climate futures . . . [is] because the analysis showed little differences among the alternatives as a result of climate change, further modeling of climate change was unnecessary to inform a choice among alternatives." (*Id.* at 27.)

Federal Defendants also argue that the purpose of the "agency's [2012] Colorado River Basin Water Supply and Demand Study" in the FEIS was to "define future imbalances in water supply and demand across the Colorado River Basin through the year 2060, and to develop and analyze options and strategies to resolve those imbalances." (*Id*. at 27–28; AR004037–38.) Federal Defendants argue that Plaintiffs incorrectly assert

that "failure to analyze the 2012 Study's most extreme climate change projections is a violation of NEPA" because "Plaintiffs confuse the LTEMP purpose and need and how it relates to the 2012 Study." (Doc. 105 at 28.)

According to Federal Defendants, the "LTEMP does not depend on the quantity of the Colorado River Supply" and "[n]othing in the 2012 Study was intended to address the granular detail of hourly, daily, or monthly operations at Glen Canyon Dam; the 2012 Basin Study was a long-term, decadal analysis to inform Basin planning efforts." (*Id.*) Put differently, this means that (1) the "uncertainty" of the climate predictions in the 2012 Study does not matter in the environmental analysis of the LTEMP and (2) because the LTEMP purpose is narrow, "its operations do not determine or affect annual volume determinations; the 2012 Study of annual river supply and demand projections are not factors when gauging the LTEMP environmental impacts." (*Id.*) Federal Defendants further argue that the Ninth Circuit has acknowledged the uncertainty surrounding Dam operations, and the need to comply with the Law of the River. (*Id.* (citing *Grand Canyon Tr.*, 691 F.3d at 1019).)

Federal Defendants finally contend that the alternatives proposed by Plaintiffs are outside the scope of the LTEMP and fail to explain how they "would comport with existing Colorado river law that governs allocation, appropriation, development, and exportation of the waters of the Colorado River Basin" or how they "would be consistent with Congress' clear direction to the Secretary of the Interior to *operate* Glen Canyon Dam under the 1956, 1968 and 1992 Acts." (Doc. 105 at 29 (emphasis in original).) As such, "the FEIS 'need not consider an infinite range of alternatives, only reasonable or feasible ones.'" (*Id.* at 30; *City of Carmel-By-The-Sea v. U.S. Dep't of Transp.*, 123 F.3d 1142, 1155 (9th Cir. 1997).)

3. Analysis

To satisfy NEPA, an environmental impact statement "shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." 40 C.F.R. §1502.13.[10] An agency only needs

[10] The Council on Environmental Quality has adopted new regulations that became effective on September 14, 2020. Update to the Regulations Implementing the Procedural

to consider alternatives that are reasonably related to the purposes of the project. *Westlands Water Dist.*, 376 F.3d at 868. The law "does not impose a numerical floor on alternatives to be considered," *Native Ecosystems Council v. U.S. Forest Serv.*, 428 F.3d 1233, 1246 (9th Cir. 2005), except that an agency must always consider the alternative of taking no action, 40 C.F.R. § 1502.14(d), and must explain its reasons for eliminating an alternative, *N. Alaska Env't Ctr. v. Kempthorne*, 457 F.3d 969, 978 (9th Cir. 2006). But "NEPA does not require [an agency] to explicitly consider every possible alternative to a proposed action." *Id*. For example, an agency need not consider alternatives that are "infeasible, ineffective, or inconsistent with the basic policy objectives for the management of the area." *Headwaters, Inc. v. Bureau of Land Mgmt., Medford Dist.*, 914 F.2d 1174, 1180 (9th Cir. 1990). Nor does NEPA "require a separate analysis of alternatives which are not significantly distinguishable from alternatives actually considered, or which have substantially similar consequences." *Id.* at 1181. "[A]n agency's consideration of alternatives is sufficient if it considers an appropriate range of alternatives, even if it does not consider every available alternative." *Id.* at 1181.

The LTEMP FEIS fully analyzes seven alternatives, which the Court briefly summarizes below. (AR003693–799.) The first, Alternative A, is the No Action Alternative, and "serves as a baseline against which the impacts of 'action' alternatives can be compared . . . the LTEMP EIS, the No Action Alternative (referred to here as Alternative A) represents a situation in which the [the Department] would not modify existing decisions related to operations." (AR003700.)

The second, Alternative B, outlined an objective "to increase hydropower generation while limiting impacts on other resources and relying on flow and non-flow actions to the extent possible to mitigate impacts of higher fluctuations." (AR003712.) "Alternative B focuses on non-flow actions and experiments to address sediment resources, nonnative fish control, and native and nonnative fish communities." (*Id.*) Its monthly

Provisions of the National Environmental Policy Act, 85 Fed. Reg. 43,304, 43,304 (July 16, 2020); *see also* 40 C.F.R. § 1506.13 (2020). Because Federal Defendants applied the previous regulations and neither party objects to using the previous regulations, the Court does so as well. *Bair v. California Dep't of Transp.*, 982 F.3d 569, 577 (9th Cir. 2020).

volumes would be the same as "under current operations, but daily flow fluctuations would be higher than under current operations in most months." (*Id.*) Alternative B "originally included several elements that were determined to be either outside the scope of this EIS, were already part of a previous NEPA process, or were dismissed for other reasons." (*Id.*)

Alternative C's objective seeks "to adaptively operate Glen Canyon Dam to achieve a balance of resource objectives with priorities placed on humpback chub, sediment, and minimizing impacts on hydropower." (AR003715.) "Operational changes or implementation of nonflow actions could be triggered by changes in sediment input, humpback chub numbers and population structure, trout numbers, and water temperature." (AR003717.) "Alternative C adopts a condition-dependent experimental approach" and "adopt[s] a base operation that would serve as a long-term strategy to provide the conditions needed to support natural and cultural resources while reducing impacts on hydropower." (AR003719.)

The preferred alternative, Alternative D, which Federal Defendants ultimately selected to move forward with, seeks "to adaptively operate Glen Canyon Dam to best meet the resource goals of the LTEMP" and is "also considered the environmentally preferred alternative, based on its relative impacts (compared to other alternatives) on the full range of environmental resources." (AR003735.) "Under Alternative D, the pattern of monthly releases would be relatively even compared to under Alternative A" and the base operations of Alternative D would allow "within-day fluctuation range from Glen Canyon Dam [that] would be proportional to the volume of water scheduled to be released during the month." (AR003736.)

Alternative E's objective is "to provide for recovery of the humpback chub while protecting other important resources including sediment, the Glen Canyon rainbow trout fishery, aquatic food base, and hydropower resources." (AR003764.) "Of particular focus under Alternative E are changes in sediment input, humpback chub numbers and population structure, trout numbers, and water temperature. The Basin States submitted this alternative for analysis and consideration in the LTEMP EIS." (*Id.*)

Alternative F's objective is to provide "flows that follow a more natural pattern while limiting sediment transport and providing for warming in summer months." (AR003772.) Such flows under Alternative F "would follow the same basic monthly pattern as the Seasonally Adjusted Steady Flow Alternative in the 1995 EIS (Reclamation 1995), but the pattern is modified to achieve higher, more variable spring peak flows, lower summer, fall, and winter flows, and warmer temperatures starting in July." (AR003773.)

The seventh alternative, Alternative G, seeks "to maximize the conservation of sediment, in order to maintain and increase sandbar size." (AR003773.) "Under Alternative G, flows would be delivered in a steady pattern throughout the year with no monthly differences in flow other than those needed to adjust operations in response to changes in forecast and other operating requirements such as equalization." (*Id.*)

In addition to these fully considered alternatives, the EIS briefly considered and rejected eleven alternatives: 1) Decommission Glen Canyon Dam; 2) Fill Lake Mead First; 3) Grand Canyon First; 4) Full-Powerplant Capacity Operations; 5) Naturally Patterned Flows; 6) Run-Of-The-River; 7) Species Community and Habitat-Based Alternative; 8) Stewardship Alternative; 9) Twelve-Year Experiment of Two Steady-Flow Alternative; 10) Seasonal Fluctuations with Low Summer Flow Alternative; and 11) Modified Low Fluctuating Flows with Extended Protocols. (AR003776–80.)

The Court disagrees with Plaintiffs' contention that Federal Defendants violated NEPA because the seven alternatives described in the LTEMP FEIS were nearly identical to each other. As explained in the record, "[a]lternative operations that either used different operational strategies (e.g., consistent monthly release pattern or condition-dependent release pattern) or had different primary objectives (e.g., native fish, sediment, or restoration of a more natural flow pattern) were developed and refined." (AR003536.)

Further, Federal Defendants determined:

> Alternatives that have higher releases earlier in the water year are able to release more water in years when the maximum release through the powerplant becomes a potential limiting factor to equalizing within the water year, which is consistent

> with the objectives of applicable federal law. A limitation of the current modeling assumptions is that they cannot fully mimic or predict operator judgment or actions to achieve full equalization within the relevant timeframe. Reclamation will continue to operate Glen Canyon Dam to achieve equalization releases in a manner fully consistent with the Law of the River and in consultation with the Colorado River Basin States.

(AR004060.)

Complying with the Law of the River and other federal law is an appropriate goal for Federal Defendants. *See* Reclamation Projects Authorization and Adjustment Act of 1992, Pub. L. No. 102-575, 106 Stat. 4600, § 1802. "It would turn NEPA on its head to interpret the statute to require that an agency conduct in-depth analyses of . . . alternatives that are inconsistent with the agency's policy objectives." *Westlands Water Dist.*, 376 F.3d at 871 (internal citation and quotation omitted). Plaintiffs might wish for a broader purpose, but as they repeatedly argue in their briefing and at oral argument, "NEPA is a procedural statute" which "does not mandate a broader purpose." *Grand Canyon Tr.*, 623 F. Supp. 2d at 1029 (citing *Sierra Club v. Bosworth*, 510 F.3d 1016, 1018 (9th Cir. 2007)). Federal Defendants satisfied NEPA's mandate to analyze a range of reasonable alternatives, given the purpose of the LTEMP, which is to set guidelines regarding hourly, daily, and monthly water releases based off the 2007 Interim Guidelines and to comply with the Law of the River. *See Westlands Water Dist.*, 376 F.3d at 872 (reversing the district court's holding "that the range of alternatives considered in the EIS is unreasonable" and finding that the "range of alternatives considered achieved the goals intended by NEPA").

"The touchstone for courts reviewing challenges to an EIS under NEPA is whether an EIS's selection and discussion of alternatives fosters informed decision-making and informed public participation." *Id.* (citing *Block*, 690 F.2d at 767) (internal quotations omitted). Here, there was a thorough public debate about many alternative concepts. (AR003535.) "Six public meetings and one web-based meeting were held in Arizona, Colorado, Nevada, and Utah in November 2011." (*Id.*) And a "total of 447 individuals, groups, or organizations submitted scoping comments." (*Id.*) Also, "[s]everal iterations of

preliminary draft alternative concepts developed by NPS and Reclamation were presented to the Cooperating Agencies and other stakeholders in workshops and webinars to explain the alternative development process, describe proposed alternative characteristics, and solicit feedback." (AR003537.)

Plaintiffs' other contention—that the other additional alternatives (including theirs) were not meaningfully considered, thus violating NEPA—also lacks merit. "So long as 'all reasonable alternatives' have been considered and an appropriate explanation is provided as to why an alternative was eliminated, the regulatory requirement is satisfied . . . the regulation does not impose a numerical floor on alternatives to be considered." *Native Ecosystems Council*, 428 F.3d at 1246.

Here, Plaintiffs' proposed alternative called "Decommissioning Glen Canyon Dam" was not carried forward for detailed analysis because it "proposed either removing Glen Canyon Dam or leaving it in place while 'equaliz[ing] upstream flows' to further commenters' stated goals of 'new recreational activities; restoring the environmental, recreational, and cultural resources of the Grand Canyon and the Colorado River basin to their pre-dam conditions; and positively affecting the health of the Colorado River Ecosystem.'" (Doc. 106 ¶ 20; Doc. 119 ¶ 20; AR003779.) The LTEMP FEIS explained that "this alternative 'would not meet the purpose, need, or objectives of the proposed action' because it 'would not allow compliance with water delivery requirements, including the Law of the River and 2007 Interim Guidelines . . . and would not comply with other federal requirements and regulations, including the GCPA.'" (Doc. 106 ¶ 20; Doc. 119 ¶ 20; AR003779–80) (internal citation omitted). "The FEIS further noted that this alternative had been rejected in the 1995 EIS on Glen Canyon Dam operations for similar reasons." (Doc. 106 ¶ 20; Doc. 119 ¶ 20; AR003780.)

Plaintiffs' other proposed alternative called "Fill Lake Mead First" was not carried forward for detailed analysis because it "proposed that 'primary water storage would shift from Lake Powell to Lake Mead, using Lake Powell as a backup for seasonal and flood control purposes' to meet the commenters' stated goals of reducing evaporation and

seepage and increasing 'flexibility for implementing Grand Canyon restoration strategies.'" (Doc. 106 ¶ 21; Doc. 119 ¶ 21; AR003780.) The LTEMP FEIS explained "this alternative 'would not meet the purpose, need, or objectives of the proposed action' because it 'would not allow compliance with water release requirements, including, but not limited to, the division and apportionment of the use of the waters of the Colorado River system under the Colorado River Compact, as well as other portions of the Law of the River and 2007 Interim Guidelines. . . .'" (Doc. 106 ¶ 21; Doc. 119 ¶ 21; AR003780) (internal citation omitted). The LTEMP FEIS further explained that "the alternative would not comply with other federal requirements and regulations, including the GCPA." (Doc. 106 ¶ 21; Doc. 119 ¶ 21; AR003780.)

Plaintiffs' final proposed alternative called "Run-of-the-River" was not carried forward for detailed analysis because it "suggested that Glen Canyon Dam could be re-engineered to operate as a modified run-of-the-river facility" to "restore natural water and sediment flows to the greatest extent possible by reconnecting old river bypass tunnels or constructing new tunnels to bypass Glen Canyon Dam." (Doc. 106 ¶ 22; Doc. 119 ¶ 22; AR003780.) The LTEMP FEIS "explained that this alternative 'would not meet the purpose, need, or objectives of the proposed action' because it 'would not allow compliance with water delivery requirements, including the Law of the River and 2007 Interim Guidelines . . . and would not comply with other federal requirements and regulations, including the GCPA.'" (Doc. 106 ¶ 22; Doc. 119 ¶ 22; AR003780) (internal citation omitted).

As for the other alternatives that were not carried forward, the LTEMP FEIS explains why they were not carried forward or how parts of the alternative were combined into one of the seven alternatives that were carried forward. (AR003776–80.)

Plaintiffs rely on *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 813–14 (9th Cir. 1999), for the proposition that nearly identical alternatives violate NEPA and that an EIS prepared by the Forest Service should have considered an alternative that requested funds, even if those funds were not necessarily available. (Doc. 92 at 30, 33.)

But that case is distinguishable. There, the Court faulted the Forest Service for not considering an alternative that would have involved purchasing land using moneys from the Federal Land and Water Conservation Fund. *Muckleshoot Indian Tribe*, 177 F.3d at 814. "While the Forest Service itself cannot appropriate these funds," the Court observed, still, "it can request them" and should have considered an alternative under which it does. *Id.* The Ninth Circuit has since narrowed its interpretation of *Muckleshoot Indian Tribe*, holding in *City of Sausalito v. O'Neill*, that NPS was not required to consider an alternative that would require legislative action to secure additional funding when the circumstances showed that the prospects of securing that funding from Congress were remote. 386 F.3d 1186, 1210 (9th Cir. 2004). Furthermore, there is a meaningful difference between requesting and obtaining funding to purchase a parcel of land and upending major federal law which would be required to implement any of Plaintiffs' proposed alternatives. The Law of the River demonstrates Congress' active role in the development, operation, and oversight of water supply projects and policy in the Colorado River Basin for several decades. For purposes of an alternatives analysis under NEPA, it is speculative to suggest that Congress would undo much of that law any time soon to allow for any of Plaintiffs' proposed alternatives.

As explained above, the construction of the purpose and need statement is reasonable in light of the governing statutes. The range of alternatives considered achieved the goals intended by NEPA, and open, thorough public discussion promoted informed decision-making. The LTEMP FEIS considered several realistic, reasonable options before settling on the preferred Alternative D, and its review of alternatives satisfies the rule of reason. Plaintiffs' motion for summary judgment regarding their third claim is denied, and summary judgment is granted in favor of Federal Defendants and State Intervenors.

E. Claim Four – Supplemental Environmental Impact Statement

1. Plaintiffs' Arguments

Plaintiffs argue that Federal Defendants failed to prepare a SEIS addressing significant new information regarding the impact of climate change on the Colorado River

Basin. Plaintiffs argue that Reclamation violated NEPA and the APA in at least three ways: (1) "by utterly failing to even consider and evaluate the new, relevant, post-FEIS climate change studies and other information presented by Save the Colorado"; (2) failing "to prepare an [sic] SEIS upon receipt of the new information, which plainly surpasses the 'significance' threshold[;]" and (3) "to the extent [Reclamation] made an affirmative determination not to prepare an[sic] SEIS, that determination is unsupported by the record and is arbitrary and capricious. . . ." (Doc. 92 at 35.)

2. Federal Defendants' Arguments

Federal Defendants argue that a supplemental environmental impact statement "is not required here because the subsequent information, including the studies Plaintiffs attach to their declarations, will not inform the purpose and need of the LTEMP or its operations of hourly, daily, and monthly releases of water." (Doc. 105 at 30.) Federal Defendants further argue that "because the LTEMP operates independent of the effects of climate change, supplementation with climate change studies is not relevant to the decision, and therefore [the Department's] action in declining to supplement the FEIS was not a clear error in judgment." (*Id.* at 31.)

3. Analysis

NEPA regulations require agencies to produce a SEIS whenever significant new "information relevant to environmental concerns and bearing on the *proposed action or its impacts*" comes to light. 40 C.F.R. §1502.9(c)(1)(ii) (emphasis added). However, "an agency need not supplement an EIS every time new information comes to light after the EIS is finalized." *Marsh*, 490 U.S. at 373. Rather, "NEPA requires an agency to take a 'hard look' at potential environmental consequences before taking action, and if the proposed action might significantly affect the quality of the environment, a supplemental EIS is required." *Klamath Siskiyou Wildlands Ctr. v. Boody*, 468 F.3d 549, 560 (9th Cir. 2006) (internal citations omitted). The Court's evaluation of whether "the agency took a sufficiently 'hard look' . . . is 'essentially the same' as an abuse of discretion analysis." *Ctr. for Biological Diversity v. Bernhardt*, 982 F.3d 723, 734 (9th Cir. 2020) (internal

citation omitted).

One of Plaintiffs' experts avows that "flows in the Colorado River have decreased so dramatically–which are attributable to climate change" and that because their "2019 SEIS highlights this new science . . . Reclamation must redo its climate analysis in the LTEMP, and must consider a full range of alternatives for the management of Glen Canyon Dam including decommissioning." (Doc. 95 ¶ 15.) Another expert for Plaintiffs asserts that "the warmer temperatures brought on by climate change will cause less runoff into the Colorado River than would have been the case historically . . . [t]his adds even more urgency to the need to revise the LTEMP in light of new research." (Doc. 96 ¶ 28.) Those declarations, and the other the subsequent information, including the studies Plaintiffs attach to their declarations, may or may not have merit, but either way it will not inform the purpose and need of the LTEMP or its operations of hourly, daily, and monthly releases of water. This is because, as explained above, the purpose and need statement for the LTEMP "is to provide a comprehensive framework for adaptively managing [the Dam] over the next 20 years consistent with the [GCPA] and other provisions of applicable federal law." (Doc. 106 ¶ 2; Doc. 119 ¶ 2; AR003659–60). As such, "the Secretary may continue to meet statutory responsibilities for protecting downstream resources for future generations, conserving species . . . protecting the interests of American Indian Tribes . . . while meeting obligations for water delivery and the generation of hydroelectric power." (Doc. 106 ¶ 2; Doc. 119 ¶ 2; AR003659–60).

The 2007 Interim Guidelines governing the annual water releases provides the framework and boundaries for the LTEMP's operations of hourly, daily, and monthly releases of water—not annual releases of water. (Doc. 93 ¶ 7; Doc. 106 ¶ 5; Doc. 107 ¶ 7; Doc. 119 ¶ 5; AR000055.) Although one of Plaintiffs' experts contends Federal Defendants must prepare a SEIS and "redo its climate analysis in the LTEMP, and must consider a full range of alternatives for the management of Glen Canyon Dam including decommissioning," (Doc. 95 ¶ 15), the record here reflects that Federal Defendants did look at Plaintiffs' proposed alterative of decommissioning the Dam. (Doc. 106 ¶ 20;

Doc. 119 ¶ 20; AR003779.)

The Court finds that the Federal Defendants "acted within the dictates of NEPA in concluding that supplementation was unnecessary" because the new studies of climate change would not inform a better decision on the LTEMP and the record reflects that the Federal Defendants evaluated Plaintiffs' proposed alternative of Decommissioning the Dam. *Env't Coal. of Ojai v. Brown*, 72 F.3d 1411, 1418 (9th Cir. 1995) (upholding the Government's decision not to prepare a SEIS because the record demonstrates the Government evaluated scientific developments that were related to the proposed impact). Therefore, Federal Defendants' decision not to supplement the FEIS or explain why it was not going to supplement the FEIS with Plaintiffs' submissions was "not arbitrary or capricious" because it does not relate to the LTEMP, but rather the 2007 Interim Guidelines, which is not at issue here. *Headwaters, Inc.*, 914 F.2d at 1177.

Accordingly, summary judgment will be granted in favor of the Federal Defendants and State Intervenors as to Plaintiffs' fourth cause of action. Consequently, Plaintiffs' motion for summary judgment will be denied as to its fourth claim.

IV. MOTION TO SUPPLEMENT THE ADMINISTRATIVE RECORD

Plaintiffs recently filed a Motion to Supplement the Administrative Record or, in the alternative, to Take Judicial Notice of the Bureau of Reclamation's October 28, 2022, Notice of Intent to Prepare a SEIS for the 2006 Interim Guidelines. (Doc. 142.) For the reasons below, the Court denies the motion.

Plaintiffs ask this Court to supplement the administrative record with Reclamation's Notice of Intent to Prepare a Supplemental Environmental Impact Statement for December 2007 Record of Decision Entitled Colorado River Interim Guidelines For Lower Basin Shortages and Coordinated Operations For Lake Powell and Lake Mead dated October 28, 2022 ("Notice of Intent"). Plaintiffs claim the Notice of Intent "states that it will issue a SEIS by mid-2023, the purpose of which 'is to supplement the EIS completed in 2007 for the 2007 Interim Guidelines in order to modify operating guidelines for the operation of Glen Canyon and Hoover Dam to address historic drought and low runoff conditions in the

Colorado River Basin.'" (Doc. 142 at 2; Doc. 142-1 at 6.) Plaintiffs argue the Notice of Intent "has direct bearing on Save the Colorado's Claim Four, which alleges that [Reclamation] violated NEPA by failing to prepare an [sic] SEIS for the 2016 LTEMP in light of significant new information about the effects of climate change on the Dam's operations." (Doc. 142 at 2.)

Generally, judicial review of an agency action is limited to a review of the administrative record in existence at the time of the agency's decision. *Florida Power & Light Co. v. Lorion*, 470 U.S. 729, 743–44 (1985); *Friends of the Clearwater v. Dombeck*, 222 F.3d 552, 560 (9th Cir. 2000). "[T]he focal point for judicial review should be the administrative record already in existence, not some new record made initially in the reviewing court." *Camp v. Pitts*, 411 U.S. 138, 142 (1973). Parties may not use "post-decision information as a new rationalization either for sustaining or attacking the Agency's decision." *Ctr. for Biological Diversity v. U.S. Fish & Wildlife Serv.*, 450 F.3d 930, 943 (9th Cir. 2006) (citation omitted).

The Ninth Circuit recognizes certain narrow exceptions to this general rule. In limited circumstances,

> district courts are permitted to admit extra-record materials: (1) if admission is necessary to determine whether the agency has considered all relevant factors and has explained its decision, (2) if the agency has relied on documents not in the record, (3) when supplementing the record is necessary to explain technical terms or complex subject matter, or (4) when plaintiffs make a showing of agency bad faith.

Lands Council, 395 F.3d at 1030 (quoting *Sw. Ctr. for Biological Diversity v. U.S. Forest Serv.*, 100 F.3d 1443, 1450 (9th Cir. 1996). "Though widely accepted, these exceptions are narrowly construed and applied." *Id.* "The moving party has the burden of demonstrating that an exception applies." *Quechan Tribe of the Ft. Yuma Indian Rsrv. v. U.S. Dep't of the Interior*, No. 12CV1167-GPC-PCL, 2012 WL 5612368, at *2 (S.D. Cal. Nov. 15, 2012).

Plaintiffs seek to broaden the administrative record and to supplement the record with a document not in existence at the time of the agency's decision, and wish to

supplement the record with the Notice of Intent which does not have direct bearing on the LTEMP. Plaintiffs further fail to argue which exception allows for the Notice of Intent to be supplemented into the administrative record. (Doc. 142; Doc. 145.)

After reviewing the Notice of Intent, the Court finds that no exception to supplement applies here. First, Plaintiffs recognize that a SEIS is only required if there are "significant new circumstances or information relevant to environmental concerns and *bearing on the proposed action or its impacts*." (Doc. 92 at 24–25 (citing C.F.R. § 1502.9(c)(1)(ii)) (emphasis added)). The Notice of Intent describes Reclamation's plan to supplement the environmental impacts studied for the 2007 Interim Guidelines, not the agency action challenged here and the basis for Plaintiffs' Complaint—the LTEMP. (Doc. 1 ¶ 4.) Specifically, the Notice of Intent explains the "purpose of the SEIS is to supplement the EIS completed in 2007 for the 2007 Interim Guidelines in order to modify operating guidelines for the operation of Glen Canyon and Hoover Dam." (Doc. 142-1 at 6.) "Such revised Hoover Dam operations would, among other issues, address Section 7.B.4 of the 2007 Interim Guidelines . . . ." (*Id.*) Further, "Reclamation anticipates proposing modifications for the 2023 and 2024 period, and potentially for subsequent years, to the following sections of the 2007 Interim Guidelines published at 73 FR 19881-92 (April 11, 2008)." (*Id.* at 7.) A SEIS is not required because the Notice of Intent will not inform the purpose and need of the LTEMP or its operations of hourly, daily, and monthly releases of water.

Second, neither Plaintiffs nor Federal Defendants argue that Reclamation or NPS have relied on documents that are not in the record. Nor have they alleged that the Notice of Intent is necessary to explain a technical term or complex subject matter. Finally, Plaintiffs have not alleged agency bad faith.

The Court also declines to take judicial notice of the Notice of Intent because "[j]udicial review of agency actions should generally be confined to the original record upon which the actions were based." *Rybachek v. U.S. E.P.A.*, 904 F.2d 1276, 1296 n.25 (9th Cir. 1990) (denying a motion to take judicial notice of documents that were

submitted to the EPA during the special comment period).

V. CONCLUSION

Accordingly,

IT IS ORDERED denying Plaintiffs' Motion for Summary Judgment (Doc. 92).

IT IS FURTHER ORDERED converting Federal Defendants' Motion for Judgment on the Pleadings to a Cross-Motion for Summary Judgment (Doc. 104).

IT IS FURTHER ORDERED granting Federal Defendants' Cross-Motion for Summary Judgment (Doc. 104).

IT IS FURTHER ORDERED granting State Intervenors' Cross-Motion for Summary Judgment and Joinder in the Federal Government's Motion (Doc. 115).

IT IS FURTHER ORDERED denying Plaintiffs' Motion to Supplement the Administrative Record or, in the alternative, to Take Judicial Notice of the Bureau of Reclamation's October 28, 2022, Notice of Intent to Prepare a SEIS for the 2006 Interim Guidelines (Doc. 142).

IT IS FURTHER ORDERED that the Clerk of Court shall enter judgment in favor of Defendants on all claims and close this action.

Dated this 23rd day of December, 2022.

Michael T. Liburdi

Michael T. Liburdi
United States District Judge