COMMENTS OF FOOTHILL CONSERVANCY, AMERICAN WHITEWATER, CALIFORNIA SPORTFISHING PROTECTION ALLIANCE, CALWILD, FRIENDS OF THE RIVER, KATHERINE K. EVATT, AND R. WINSTON BELL, JR., ON THE DRAFT LICENSE APPLICATION FOR THE MOKELUMNE PUMPED STORAGE PROJECT (P-14796)

November 29, 2024

Ms. Debbie-Anne Reese, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426
Via Electronic Submittal

Dear Ms. Reese:

Pursuant to 18 CFR § 5.16, the Foothill Conservancy, American Whitewater, California Sportfishing Protection Alliance, Friends of the River, CalWild, Katherine K. Evatt, and R. Winston Bell, Jr. (hereinafter 'Conservation Groups') respectfully submit the following Comments on the Draft License Application (DLA) for the proposed Mokelumne Pumped Storage Project (P-14796) as filed on August 30, 2024, by GreenGenStorage, LLC (GreenGen or Licensee).[1]

CONSERVATION GROUPS

These comments were jointly developed and signed by non-governmental organizations and individuals participating in the licensing proceeding for the proposed Mokelumne Pumped Storage Project. Conservation Groups represent a broad coalition of non-governmental organizations and water resource stakeholders with an interest in the Mokelumne River's numerous societal and environmental values, including recreational, scenic, Wild and Scenic, and fish and wildlife. We are grateful for the opportunity to comment and provide critical information on this project.

SUMMARY OF COMMENTS

- There is insufficient detail in the Draft License Application to allow a full evaluation of the project's feasibility and impacts. More detail on the physical characteristics of the project as well as its operations and maintenance are needed to fully evaluate its impacts. Conclusions about the lack of long-term project impacts to recreation and other resources are thus unsupported and premature.
- Conservation Groups are concerned about the proposed project's many environmental, socioeconomic, recreation, cultural resource, air quality, traffic, and wildlife impacts, as well as its impacts on other activities in the national forest, including fuel reduction.

[1] See "*Draft License Application for the Mokelumne Pumped Storage Project,*" FERC Project P-14796 (Aug. 30, 2024), eLibrary No.: 20240830-5333. (DLA). All subsequent footnote citations or references to the DLA omit the eLibrary accession number.

- The project has the potential to block the public from areas of treasured public lands in the Eldorado and Stanislaus National Forests for a period of three to five years or longer, including access to the North Fork Mokelumne California Wild and Scenic River and the federally designated Mokelumne Wilderness Area.
- The project will transform a beautiful, sensitive natural area into a heavy construction site for a period of three to five years or longer.
- The project appears to conflict with U.S. Forest Service standards, guidelines, and policies.
- The Draft License Application appears to overstate the energy and socioeconomic benefits of the project.
- The Draft License Application is unclear about the duration of project construction.
- The project claims that it can rely on existing water rights, but new water rights or changes to existing water rights would likely be required for the project to operate as planned.

These comments are generally organized following the sequence of Exhibit E of the DLA.

BACKGROUND

GreenGen is applying for an original license with the Federal Energy Regulatory Commission (FERC) for its proposed 400-megawatt Mokelumne Pumped Storage Project (Project). This license application is proceeding under FERC's Integrated Licensing Process. In April 2022, GreenGen filed its Notice of Intent and Pre-Application Document.[2] In September 2022, GreenGen filed its Proposed Study Plan, and in January 2023, filed its Revised Study Plan.[3] Under the ILP, GreenGen, in February 2024, filed its Initial Study Report (ISR).[4] On April 16, 2024, Conservation Groups filed comments on the ISR.[5] The Preliminary Permit for the Project expires November 30, 2024.

PROJECT DESCRIPTION

The DLA describes the proposed Project as follows:

> The Project would be a new 400-megawatt (MW) pumped storage hydroelectric facility located in Amador and Calaveras counties, in the State of California. The Project would utilize the existing Salt Springs Reservoir (SSR) (located on the North Fork Mokelumne River (NFMR) as the lower reservoir and the Lower Bear River Reservoir (LBRR) (located on the Bear River) as the upper reservoir. SSR and LBRR are owned and

[2] *See* Notice of Intent and Pre-Application Document, Mokelumne Pumped Storage Project P-14796 (Apr. 8, 2022), eLibrary no. 20220408-5267.

[3] *See* Proposed Study Plan (Sep. 19, 2022), eLibrary no. 20220919-5202 and Revised Study Plan (Jan. 18, 2023), eLibrary no. 20230118-5156.

[4] *See* Initial Study Report, Mokelumne Pumped Storage Project, FERC No. 14796 (Feb. 15, 2024), eLibrary no 20240215-5112.

[5] *See* Conservation Groups' Comments on Initial Study Report (Apr. 16, 2024), eLibrary no. 20240416-5129. *See also* Comments of Katherine K. Evatt and R. Winston Bell, Jr. on Initial Study Report (Apr. 17, 2024), eLibrary no. 20240417-5014.

operated as part of Pacific Gas & Electric Company's (PG&E's) Mokelumne River Hydroelectric Project (FERC No. P-137).[6]

The construction period listed in the DLA's discussion of traffic analysis is 60 months, but in other parts of the DLA, the construction period is listed as 38 months. If there is that much uncertainty about the duration of the construction period, the Final License Application should include analyses of the shortest period as well as the longest period.

COMMENTS ON EXHIBIT B, "PROJECT OPERATION AND RESOURCE UTILIZATION"

I. 2.3 Alternative Facility Designs, Processes, and Operations

Conservation Groups are concerned that in its discussion of Transmission Interconnection Alternative, GreenGen states, "GreenGen's Project is designed to interconnect with the regional grid at PG&E's Salt Springs substation,"[7] in order to avoid placing a new transmission line 17 miles down the North Fork Mokelumne River canyon. However, the existing substation is only 115 kV, as it serves only 44 MW of existing generation.[8] In Exhibit E, GreenGen asserts it will interconnect at 230 kV at Salt Springs, and references the need for upgrading the transmission line through the Mokelumne River canyon. The proposed Project cannot operate without construction of this 230 kV transmission line. Thus, the transmission line and its impacts should be analyzed as part of the Project scope for which GreenGen seeks a license.

There are numerous potential impacts associated with an upgraded transmission system, including ground disturbance, habitat degradation, vegetative clearing, visual impacts, damage to cultural resources, harm to listed and protected wildlife species, and impairment of the natural setting and quality of the recreational experience. Exhibit B should recognize as part of the proposed Project the 230 kV interconnection and transmission reconstruction to PG&E's existing Tiger Creek Substation.

COMMENTS ON EXHIBIT E, "ENVIRONMENTAL REPORT"

I. 1.2 Purpose of Action and Need for Power

The DLA states: "Issuing an original license for the Project will authorize the generation of hydroelectric power for the term of the license, producing low-cost electricity from a non-polluting renewable resource." However, the DLA and supporting studies do not substantiate the contention that the power generated will be low cost. The economic evaluation of Project costs and benefits in Initial Study Report Appendices T, T-1, and T-2 contain multiple assumptions both of the capital costs of the proposed Project and its economic competitiveness with other rapidly developing and expanding forms of energy storage. Moreover, even assuming competitiveness with battery storage and other energy storage technology, the capital-intensive nature of the proposed Project, and substantial unknowns about the duration and costs of its

[6] *See* DLA, Exhibit E, p. E-4. *See id.* for additional Project description.
[7] *See* DLA Exhibit B, p. B-3.
[8] *See* DLA, Exhibit E, p. E-26.

construction, make the assertion of low-cost power production at best premature. Unless and until more supporting information about the proposed Project is developed, Conservation Groups recommend that the FLA delete the characterization that the Project will produce "low-cost electricity."

II. 1.4 Statutory and Regulatory Requirements

The DLA claims at Section 1.4.1.4 that "Section 301 Fish and Wildlife Conditions" do not apply to the proposed Project because the proposed Project would not create any new dams or diversions.[9] The FLA should, first, clarify the legal reference. Second, it is unclear whether the proposed Project would in fact create a new diversion in the sense covered by that legal reference. The respective tunnel intakes at both Lower Bear River Reservoir and Salt Springs Reservoir would fit under many definitions of "new diversions." In addition, there are no existing water rights to divert water from Salt Springs Reservoir to Lower Bear River Reservoir.

The DLA at Section 1.4.5 does not appear to include in the Area of Potential Effects (APE), for the purposes of Section 106 consultation, the area affected by the reconstruction of power lines and reconstruction of roads and bridges that will be necessary to service the proposed Project. *See* discussion above and below. The APE properly includes areas well downstream of Salt Springs due to the need to rebuild power lines and roads in the canyon of the North Fork Mokelumne River.

Section 1.4 of the DLA appears to be missing discussion of the California Wild and Scenic Rivers Act, which protects the North Fork of the Mokelumne River. The proposed Project has the potential to adversely affect the wild and scenic values of North Fork Mokelumne, as defined under the California Wild and Scenic Rivers Act. The FLA should correct this omission. *See also* further analysis, below.

In addition, as pointed out by the East Bay Municipal Utility District in its recent comment letter on the DLA,[10] Project operations would be subject to two longstanding legal decisions collectively known as the "Lodi Decrees." Those requirements are not referenced in the DLA, but are critical in regulating water and power operations on the Mokelumne River.

III. 2. Proposed Action and Alternatives

The FLA should revise Section 2.1 to state that other long-term storage options such as batteries are likely to provide the energy-shaping service that the proposed Project would provide if constructed, while likely still meeting all the referenced renewable energy goals.

As discussed above, the FLA should revise Section 2.3 to analyze the required substation and transmission lines to serve the new generation facilities.

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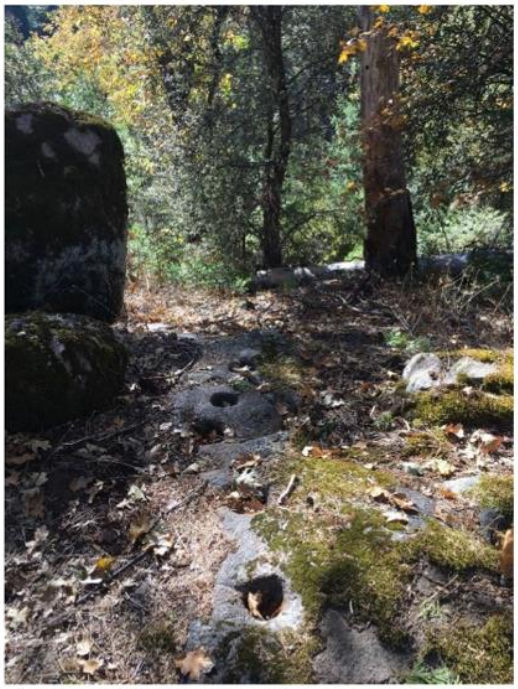
[9] *Id.*, p. E-10.

[10] East Bay Municipal Utility District, Comments on the Draft License Application, GreenGen Storage LLC FERC Project No. P-14796-001 (Nov. 25, 2024), eLibrary no. 20241125-5.

IV. 3.2 Cultural and Tribal Resources

The Draft License Application does not include technical memos related to the affected area's cultural resources. The project has the potential to affect the Mokelumne Archeological Special Interest Area (SIA) in the Eldorado National Forest Land and Resource Management Plan (USFS 1988).[11] The Mokelumne River Canyon Archaeological District was earlier found eligible for, and is now included in, the National Register of Historic Places.[12]

Conservation Groups understand the need to not disclose the details of specific cultural resources. Nonetheless, the DLA should include a general discussion of those resources and potential project impacts. This disclosure is needed to inform reviewers of the significance of the resources and the need for their protection, consistent with the Eldorado National Forest Land and Resource Management Plan. Widening roads, tunnel blasting and drilling, 230 kV power line and tower construction, bridge replacements, tunnel spoils disposal, and other construction activities proposed for the Project have the potential to damage and destroy important cultural resources in these designated special areas.



A-3 Riverside Mortar Cultural Site

Image from California Natural Resources Agency
Mokelumne River Wild and Scenic River Study Report, 2018.

[11] *Eldorado National Forest Land and Resource Management Plan*, U.S. Forest Service, 1988. (LRMP). Available at: https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://www.fs.usda.gov/main/eldorado/landmanagement/planning.

[12] *Mokelumne River Wild and Scenic River Study Report*, California Natural Resources Agency, 2018. (CNRA). Available at: https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://resources.ca.gov/CNRALegacyFiles/wp-content/uploads/2018/01/mokelumne-river-wild-and-scenic-study-report.pdf.

In 1990, the U.S. Forest Service issued its Wild and Scenic River Study Report/ Environmental Impact Statement on the North Fork Mokelumne River.[13] The study concluded that cultural resources in the North Fork Mokelumne River corridor from Salt Springs Dam to the western forest boundary were an "outstandingly remarkable value" as defined in the National Wild and Scenic Rivers Act, and formed the basis for the National Wild and Scenic River eligibility for that river segment.

The 1990 USFS study found that in the "12,200-acre Mokelumne Archaeological Special Interest Area established by the Eldorado National Forest, approximately 85%" of that river segment had "been inventoried for cultural resources, and over 100 prehistoric and historic sites have been recorded, more than half of which were determined to be largely intact. Dating of the archaeological materials indicated at least a 2,000-year occupational history in Segment A, which is rare in California, and concluded that the high number of prehistoric sites along the North Fork, the high degree of site integrity, and the high research potential indicate that the archaeological resources are outstandingly remarkable."[14]

The 2018 California Natural Resources Agency Mokelumne River Wild and Scenic River Study Report includes the following, relevant text on page 4.5-3. Segment A, referenced below, is the North Fork Mokelumne River downstream of Salt Springs Dam continuing to 0.5 miles upstream of Tiger Creek Powerhouse, the portion of the North Fork Mokelumne most likely to be adversely affected by the proposed GreenGen project. The quote is excerpted from the U.S. Forest Service Wild and Scenic River Study Report/Environmental Impact Statement on the North Fork Mokelumne River (USFS 1990).

> Native Americans have used the resources of the present-day North Fork Mokelumne River and the adjacent Mokelumne Wilderness for the last 2,000–10,000 years. When Euro-Americans first arrived in the middle of the 19th century, the Mokelumne River was part of the traditional territories of the Sierra Miwok. These people hunted seasonally for deer, bear, and smaller game and gathered plants for food, fiber, and medicine.
>
> Most of Segment A has been inventoried for cultural resources, and more than 110 prehistoric and historic cultural sites have been recorded. These include single bedrock mortar milling stations (used by Native Americans to grind acorns), multi-feature sites containing flake stone tool scatters, depressions from dwellings and ceremonial roundhouses, petroglyphs, historic mining debris and hydroelectric development features (remnants of flumes, ditches, and cabin foundations), and 20th century occupation sites.
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> In Segment A, these resources indicate at least a 2,000-year-old occupational sequence. Many of the prehistoric sites represent traces of the Native Americans who entered the Mokelumne River canyon within the last 500–800 years. The Northern

[13] *Wild and Scenic River Study Report/Environmental Impact Statement on the North Fork Mokelumne River*, USFS 1990 (FS 1990 WSR): Available at: https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5208236.pdf.

[14] FS 1990 WSR.

> Sierran Miwok occupied permanent settlements at an elevation of 2,000–3,000 feet. In summer, native peoples traveled into the mountains and established seasonal camps such as those found in Segment A. Summer dwellings used in the higher elevations consisted of a conical lean-to of bark or a thatched structure over a pole framework. At times, these temporary dwellings were built over a bedrock outcrop to allow grinding of acorns during wet or extremely hot weather. These bedrock mortars are present throughout the study area. The Northern Sierra Miwok used stone knives, bone or flaked stone scrapers, ground stone tools such as manos and mortars, and many other different tools. Many of these tools have been identified throughout Segment A. (USFS 1990.)
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> Before 1848, the Miwok groups had little contact with the Euro-American settlers, and the Northern Sierra Miwok population may have numbered around 2,000. (USFS 1990.)[15]

Following the 2004 Power Fire, the Eldorado National Forest identified numerous additional cultural resource sites in the river canyon near and downstream of Salt Springs Reservoir. The USFS also realized that the physical extent of previously identified sites was more extensive than originally thought, since those sites had previously been obscured by vegetation.[16]

All of the cultural resources adjacent to roads and power line rights of way that will be affected by the project could be damaged by project construction activities.

Altering the cultural resources in the project area will also adversely affect scenic values. As stated in the 2018 state wild and scenic river study for the Mokelumne,

> High-quality scenery, especially scenery with natural-appearing landscapes, enhances our lives and benefits society as a whole. People are concerned about the quality of their environment, including the aesthetic value of landscapes.
>
> The visual quality of an area or scene is defined by the combination of natural and cultural characteristics found there and the values that people associate with them. The evaluation of scenic values resources to determine whether these resources are extraordinary includes a consideration of geology, hydrology, vegetation, recreation, cultural, and other resources (emphasis added).[17]

The study also noted, "The scenic views and values in Segment A are considered to be extraordinary based on the combination and unique integrity of the geologic, hydrologic, vegetation, recreation, and cultural resources in this segment."[18]

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[15] *Id.*

[16] Personal communication, Richard Hopson, former District Ranger, Amador District, Eldorado National Forest.

[17] CNRA 2018.

[18] *Id.*

The CNRA study also states:

> The importance of Native American cultural resources within the study area was recognized by the establishment of the Mokelumne Archeological Special Interest Area in the Eldorado National Forest Land and Resource Management Plan (USFS 1988) and determining that the Mokelumne River Canyon Archaeological District is eligible for, and now included in, the National Register of Historic Places. Cultural analysis of the region indicates that the canyon has been occupied by humans for at least 2,000 years, and hundreds of prehistoric and historic era sites have been identified through archaeological investigations. The integrity of the recorded sites is unusually high, with more than half of the sites either undisturbed or showing impacts only from erosion. The high site integrity combined with the sheer number and diversity of sites in a limited area is uncommon. The sites represent a rare opportunity to understand the cultural history of the region (Wirth 1985).[19]

In addition, the CNRA study notes, "… the Miwok and their ancestors called the river canyon home for more than 2,500 years and the river canyon is a historic trade route that linked the indigenous people of the western Sierra with Eastern Sierra and Great Basin tribes (BLM 2017)."[20]

More information regarding the cultural resources in the project area is clearly needed before relevant agencies, tribes, and other interested parties can adequately analyze and provide meaningful comments on an application for an industrial energy project that has the potential to significantly impact important cultural resources and as a corollary, eligibility of the North Fork Mokelumne River for federal Wild and Scenic designation.

V. 3.3 Geology, Soils, and Groundwater

The proposed Project would involve extensive tunnel boring, largely through rock. GreenGen's clearly preferred location for disposal of tunnel spoils is close to the vicinity of the Project: in the "quarries" excavated to construct Salt Springs and Lower Bear River dams, and "thickening the downhill slope" of Lower Bear River Dam.[21] This in no small part is due to GreenGen's estimate that "[t]he Project will produce over a million cubic yards of tunnel spoils."[22]

Onsite disposal of tunnel spoils creates multiple hazards and potentials for failure. As the DLA admits:

> Tunnel spoils stored onsite without adequate design, grading, compaction, and remediation may lead to global stability issues and significant erosion. Erosion of the disposal piles will increase the chances of a significant failure of the adjacent slopes,

[19] *Mokelumne River Project, Cultural Resources Evaluation Program*, Wirth Environmental Services, 1985
[20] CNRA 2018.
[21] *See* DLA Exhibit E, pp. E-102-103.
[22] *Id.*, p. E-115.

potentially creating very large influxes of sediment to nearby waterways or blocking access on adjacent roads.[23]

The FLA needs to be much more explicit in discussing GreenGen's plan to safely store and retain tunnel spoils onsite, should the Forest Service allow onsite disposal. This is particularly exigent in light of the fact that "[t]he TBM [tunnel boring machine] will likely produce "chips" or flat gravel size pieces of rock rather than a graded material with varying sand sizes."[24]

Exhibit E explains that the spoils from the excavation of the tunnel will consist of granodiorite rock.[25] It states that one method of disposal will be compaction, which will "reduce the volume of spoils by 10 to 20 percent."[26] Compaction is a slow and noisy process that produces extensive amounts of dust. If compaction is to be used as a method of disposal, the noise and dust impacts must be more granularly analyzed. Further, if water is used to reduce the dust from compaction, the FLA needs to discuss the amount of water anticipated for this use, where it will be obtained and under what permit or water right, and the extent of tanker truck traffic that would result from that transport, as well as measures construction personnel will take to avoid pollution of groundwater or surface water with runoff from compaction activities.

The DLA acknowledges possible runoff of "surface water potentially contaminated with construction sediments and sulfide contaminated rock."[27] The DLA further admits: "A concern with precipitation is the creation of acid rock drainage (ARD) due to the interaction of water with sulfide-bearing rocks.[28] The DLA proposes: "Sulfide contaminated stockpiles will always remain covered until they are relocated to a permanent disposal location," and further alleges: "The placement of tunnel spoils in the Lower Bear River Quarry will significantly reduce the potential for production of ARD at this site due to the presence of sulfides in the bedrock and remaining shot rock in the quarry."[29] Conservation Groups question the feasibility of covering as much as a million cubic yards of stockpiled rock before its relocation. In addition, the FLA should explain how covering the relocated rock with tunnel spoils will prevent infiltration of water down to the sulfide-bearing rock below and thus avoid acid rock drainage to the Bear River. Moreover, the FLA should explain the protocols construction personnel will employ in evaluating the potential for tunnel spoils themselves to become a leaching hazard.

While the DLA discusses occasional high levels of copper in the Lower Bear River during period of very low flow,[30] the DLA fails to disclose historical pollution due to copper leaching from rock disturbed in the construction of Lower Bear River Dam. *See California Sportfishing Protection Alliance v. Pacific Gas & Electric Company*, Case no. 2:06-CV-00612-FCD-GGH (filed March 23, 2006) in the United States Federal Court for the Eastern District and resolved by settlement on July 26, 2006. The FLA should disclose and analyze the history of the

[23] *Id.*, p. E-111.
[24] *Id.*, p. E-99.
[25] *Id.*, p. E-101.
[26] *Id.*, p. E-102.
[27] *Id.*, p. E-117.
[28] *Id.*, p. E-119.
[29] *Id.*
[30] *Id.*, p. E-127.

pollution of the Bear River due to copper leaching from rock in the Lower Bear River Quarry, and should analyze the potential for the Project to exacerbate previously identified conditions.

The DLA proposes several potential types of mitigation for acid rock drainage. It proposes: "Temporary isolation of sulfide bearing rock will be required for any material encountered with ARD risk identified. Final selection of ARD mitigation will likely be at the discretion of the disposal site, permits and contractors preference."[31] The FLA must provide more specificity for the Forest Service, the Commission, and other agencies and stakeholders to evaluate the feasibility of onsite disposal of tunnel spoils.

VI. 3.4 Hydrology

In the analysis of the effects of project operations and maintenance, regarding existing water rights, the DLA states that the Project "would be operated without affecting existing water rights," and therefore, "would have no effect on existing water rights."[32] However, Lower Bear Reservoir, which was built between 1950 and 1952, has post-1914 appropriative water rights, as does Salt Springs Reservoir, built in 1931. Proposed operational changes suggest that, at minimum, a change in PG&E's existing water rights to include new diversions from Salt Springs Reservoir to Lower Bear River Reservoir would be necessary to conform the water right(s) to the proposed Project's operation. In addition, the availability to GreenGen of PG&E's water rights should be confirmed prior to environmental analysis, in order to conform to the Federal Power Act's requirements that the licensee secure all necessary authorizations for Project operation.

In the event that a new water right, or modification of an existing water right, is required for the Project, GreenGen will need to make a showing that the new or modified water right does not result in injury to existing legal users of water.

Table E. 3-28 shows the predicted mean, maximum, and minimum annual generation of the proposed Project on a month-to-month basis.[33] The FLA should analyze the results shown in this table to explain the rationale for relatively low generation in the July-September period of general peak annual energy demand. The FLA should discuss and analyze this generation pattern, as well as the hourly pumping and generation pattern, in describing the physical impacts and the economics of the proposed Project. The extent to which Project operators may change these patterns to respond to ISO operations requests should be disclosed and potential mitigation analyzed, as such unpredictability can affect reservoir levels and shoreline locations and change impacts to recreation.

In attention to potential sources of water quality impairment called out in Chapter 3.3 of the DLA, bridge replacements on Salt Springs Road and the reconstruction of power lines in the North Fork Mokelumne River canyon have the potential to cause pollution of surface water and groundwater. The FLA should add and analyze these potential sources of water quality impairment. More detail is required in these areas with highly erosive soils, sensitive habitat, and high impact potential.

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[31] *Id.*, p. E-106.
[32] *Id.*, p. E-148.
[33] *Id.*

VII. 3.7 Wildlife Resources

The Project area is important habitat for rare wildlife species, including federally and state listed birds, reptiles, and amphibians. Construction of the project is likely to create erosion, noise, dust, and blasting that could disrupt the breeding period of California Spotted Owls, American Goshawks, Willow Flycatchers, and Peregrine Falcons and potentially harm populations of Sierra Nevada Yellow-Legged Frogs. Operation of the project could adversely affect the federally listed Foothill Yellow-Legged Frogs found in the North Fork Mokelumne downstream of Salt Springs Dam by changing water temperatures and flows in ways that could disrupt the frogs' breeding season and cause egg and juvenile mortality.

A. Foothill Yellow-Legged Frog – *Federally Endangered, State Endangered*

Operation of the proposed Project may induce intra-daily spill at Salt Springs Dam during periods when the reservoir is full. Modeling output provided by the United States Fish and Wildlife Service (USFWS) shows daily fluctuations of 750-1,500 cfs and 2,000-3000 cfs.[34] Such intra-daily spill would conflict with the current management of PG&E's Project 137, which intentionally avoids spills from Salt Springs to avoid harm to Foothill Yellow-Legged Frog (FYLF).

If these new spill events occur during the FYLF breeding season, egg masses would be subject to scour and desiccation, and tadpoles may be stranded and die on receding shorelines. Conservation Groups agree with the California Department of Fish and Wildlife (CDFW) that operations modeling should be updated to reflect the sub-daily effects of induced spill on the North Fork Mokelumne River, and that GreenGen should develop mitigation measures to eliminate induced spill from the Lower Bear River Reservoir and Salt Springs Reservoir.[35]

Further, output from the Hydrologic & Water Temperature Operations Models in the Technical Study Report (DLA Attachment E-7) demonstrates that the Project may in some months cause a decrease in water temperature of up to one to two degrees Celsius in the North Fork Mokelumne River below Salt Springs Dam.[36] Conservation Groups suggest further evaluation of potential impacts to FYLF through additional temperature modeling of the North Fork Mokelumne River, as recommended in the comments of the California Department of Fish and Wildlife.

Concerning the risk of spoils placement impacting FYLF, Conservation Groups support this recommendation by USFWS: "FERC should ensure that [spoils placement] areas are adequately covered to reduce or eliminate the potential for spoils to enter the river, even during storm events." This will reduce water quality impacts to FYLFs as well as the native fish and other species present. Concerning the risk of increased road erosion and vehicle strikes,

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[34] *See* "*U.S. Fish and Wildlife Service Comments on the Draft License Application, Mokelumne Pumped Storage Project, FERC Project #P-14796*," (November 21, 2024), eLibrary No.: 20241121-5170, p. 4, Figure 1 and Figure 2.

[35] *See* "*California Department of Fish and Wildlife Response to Draft License Application for Relicensing of the Mokelumne Pumped Storage Project (FERC No. 14796),"* eLibrary No.: 20241122-5269, p. 4.

[36] *See* DLA attachment E-7, pp. 119 and 136.

Conservation Groups support the request by USFWS that GreenGen "evaluate the different road crossings and collaborate with the Service, other resource agencies, and experts to determine where modifications to the road crossings may be necessary to reduce the potential for vehicle strikes, as well as potential modifications to reduce the potential for road runoff from the increased traffic to reach waterways."[37] Conservation Groups also support the recommendation of USFWS that GreenGen develop a road impacts plan to manage and mitigate impacts of increased traffic and road construction to all species, emphasizing that, as discussed elsewhere in these comments, that plan needs to be produced concurrent with the FLA.[38]

Conservation Groups agree with CDFW's assertion that all potential impacts of the proposed Project to FYLF and their habitat should be fully mitigated. But we note yet again that the DLA does not provide sufficient operational detail needed to analyze project impacts and develop potential mitigation measures.

B. California Spotted Owl – *Proposed Federally Threatened, California Species of Special Concern*

Spoils placement, construction, and operation of the proposed Project, and construction of related transmission lines and roads, all have the potential to impact the California Spotted Owl, which is present in the North Fork Mokelumne River canyon. The Lower Bear River Reservoir Quarry is within one third of a mile of an owl Protected Activity Center (PAC).[39] Quarry activities and spoils placement are loud and disruptive to spotted owl populations, and during breeding season could result in nesting disruption or nest abandonment. Conservation Groups support the USFWS recommendations to extend the breeding season limited operating window to August 31, and for an experienced biological monitor with the authority to cease Project activities until the end of the breeding season if owls show signs of distress. In case a disturbance event occurs, Conservation Groups support the USFWS's assertion that the licensee must submit a report about the disturbance to the USFWS,[40] and add that such a report must also be timely submitted to FERC. We also note that this large limited operating period calls into question whether the project can actually be constructed during the months in which the affected area is not blocked by snow.

The DLA states, "Multiple California spotted owl activity centers… are located within 0.25 miles of the transmission line."[41] It further states: "The greatest risk would be caused by noise from helicopters; repeated low helicopter flights could cause nest abandonment or other disturbance resulting in take if work is conducted during the breeding season."[42] Conservation Groups agree with the USFWS that construction activities for the higher capacity transmission lines and roads should be restricted to outside the owl breeding season.

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[37] *See* USFWS comments on DLA, p. 5.
[38] *Id.*
[39] *See* DLA Exhibit E, p. E-234.
[40] *See* USFWS comments on DLA, p. 6.
[41] *See* DLA Exhibit E, p. E-235.
[42] *Id.*

Further, the proposed 230kV transmission line will likely be taller or otherwise different than the current transmission line, and it may then require a larger vegetation management area to prevent wildland fire. Transmission lines are known to electrocute and kill birds and disrupt avian habitat. These changes have the potential to impact or take bird species protected under the Migratory Bird Treaty Act (MBTA), including listed species such as the American Goshawk, Bald Eagle, Golden Eagle, Great Gray Owl, Osprey, and Peregrine Falcon, as well as numerous non-listed bird species that are abundant in the river canyon. GreenGen should collaborate with resource agencies and scientists to avoid impacts to or take of species covered by the MBTA, and provide sufficiently detailed project and operational information for analysis and collaboration to take place.

VIII. 3.9 Recreation and Land Use

The project area is primarily managed for recreation, especially in the summer months. Families continue generations-long traditions by camping, boating, swimming and fishing in and around Lower Bear River Reservoir, and many visitors backpack, camp, swim, hunt, rock climb, kayak, and fish both above and below Salt Springs Reservoir. The DLA understates the effects of construction noise, blasting, dust and road closures on the recreational use of public and private lands in the affected area.

A. Whitewater Boating

The DLA references the Fantasy Falls Section (V+) of the North Fork Mokelumne in an aside, suggesting that "the upstream reach is very steep (…) and is not frequented by boaters due to multiple hazards."[43] This characterization is not accurate.

Fantasy Falls is a unique multi-day whitewater expedition trip that annually attracts paddlers from across the globe. The river segment encompassing the Fantasy Falls run is considered suitable and recommended by the Forest Service as a Wild River in the 1991 Stanislaus Forest Land and Resource Management Plan (LRMP) – a comprehensive plan recognized by FERC.[44] From the Highway 4 Bridge to Salt Springs Reservoir, the North Fork Mokelumne flows through the Mokelumne Wilderness, dropping nearly 3,000 feet for 27 miles. Typically paddled as a two or three-day expedition, the wilderness character of the run, its unparalleled beauty, and its whitewater difficulty make it unequaled in the state and also the world. Every Fantasy Falls trip ends in paddling across Salt Springs Reservoir. Visual and wilderness character impacts from the project will have a long-lasting and irreversible effect on this wilderness experience and must be treated appropriately as such.

Access to the Fantasy Falls reach must also be appropriately treated as an impact. Water year type can shorten the Fantasy Falls season to just a few days each year, or none in certain years. If access is restricted during wetter years interspersed with dry years, the overall impact to Fantasy Falls paddlers in terms of the community knowledge of whitewater boaters and also actual use could be significantly greater than closure years alone.

[43] *Id.*, p. E-252.
[44] *Id.*, p. E-260.

Kayakers navigating rapids and camping on the Fantasy Falls whitewater run. The Fantasy Falls run is considered suitable and recommended by the Forest Service as a Wild River in the 1991 Stanislaus Forest Land and Resource Management Plan. Photos courtesy of American Whitewater, Nick Murphy, and Darin McQuoid.

In addition, the segment of the North Fork Mokelumne downstream of Salt Springs Dam has a developed put-in for the class III-V Devil's Nose whitewater run, which provides more than 15 miles of whitewater recreation through the remote forested river canyon of the North Fork and main stem Mokelumne.

Construction and new and improved facilities and infrastructure associated with the project (including new and improved roads and bridges, expanded powerlines and substation, and debris disposal) could directly and adversely impact these important day use and overnight recreational opportunities. These impacts are poorly addressed in the DLA, and the incomplete nature of the DLA make those impacts very difficult to analyze.

Construction-related impacts must be assessed with a rigid timeline and schedule of construction activities. Recreation access for whitewater flows required by the Project 137 license on the Devil's Nose Section would be affected for several years. Any delays, weather/climate-change driven, supply chain, or otherwise could expand the period of impact. A specific schedule is necessary to evaluate the potential level of impact.

Potential effects on recreation quality will last beyond the duration of construction. While Exhibit E asserts that quality of recreation experiences will not be expected, the built environment has the potential to impact the wilderness character and setting for recreationists on Salt Springs Reservoir and also exiting the Fantasy Falls (V+) whitewater section of the North Fork Mokelumne River above Salt Springs Reservoir. It also has the potential to impact the views of the Salt Springs area from Calaveras Dome, Hammer Dome, and the Salt Springs overlook south of Lower Bear River Reservoir.

B. Wild and Scenic Rivers and Forest Plan Management Direction for Wild and Scenic Rivers and Special Interest Areas

1. Wild and Scenic Status and Eligibility of the North Fork and Mainstem Mokelumne River

The proposed Project could adversely impact the Recreational segment of the 37-mile-long North Fork Mokelumne River managed by California as a state Wild and Scenic River. It could also adversely impact 6.5 miles of the North Fork between Salt Springs Dam and a point upstream of the Bear River confluence determined suitable and recommended by the Forest Service as a Recreational River in the National Wild and Scenic Rivers System (the DLA incorrectly identifies this segment of the North Fork as a "study river"). In addition, the Project could affect the lower segments of the Bear River, Cole Creek, Green Creek, and Beaver Creek within the Mokelumne Archeological Special Interest Area (SIA) considered eligible for National Wild and Scenic River protection by the Forest Service.

The Project could also impact the segment of the Bear River between Lower Bear River Reservoir and the Mokelumne SIA boundary. This segment has never been assessed by the Forest Service for potential Wild and Scenic eligibility and suitability. In a resolution of a forest plan appeal, the Regional Forester in 1990 directed the Eldorado National Forest to assess the Bear River and other streams for Wild and Scenic eligibility if a project is proposed that could potentially threaten river values. The GreenGen Project triggers this explicit direction for the Bear River and Cole Creek. In addition, Section 3.9.5 (Unavoidable Adverse Impacts) states the construction of Project Tunnel No. 2 under Cole Creek could, but is unlikely to, permanently

impact the stream flow of this eligible Wild and Scenic River. Given the lack of details in the DLA (including accurate and detailed maps), it is difficult to determine potential Project impacts on the eligible segment of Cole Creek in the Mokelumne SIA, as well as the upstream segment that remains unassessed but is subject to the Regional Forester's direction.

The state Wild and Scenic River segment is managed by California to protect its free-flowing condition and extraordinary scenery and recreational values. Although state law defines "river" as the "water, bed, and shoreline…up to the first line of permanently established riparian vegetation," it also requires that "certain rivers" and their "immediate environments" be preserved. (PRC 5093.52[c], PRC 5093.61) State law also requires state agencies to "exercise their powers granted any other provision of law in a manner that protects the free-flowing state of each component of the system and the extraordinary values for which each component was included in the system." (PRC 5093.61) These provisions clearly outline a state regulatory interest in the protection of scenery, recreation, and other resource values associated with the river that extends beyond the river's first line of permanently established riparian vegetation.

The DLA acknowledges that, under the California Wild and Scenic Rivers Act, an application for new water rights must demonstrate that the proposed projects would not cause adverse effects "upon the free-flowing condition, natural character, immediate environments, or extraordinary scenic or recreational values…" of the state-designated river segments on the Mokelumne River. Conservation Groups are concerned that the proposed Project will cause adverse effects on the free-flowing condition, natural character, immediate environments, and extraordinary scenic or recreational values of designated segments of the Mokelumne River. A larger and more visually obtrusive 230 kV transmission line and widened roads will reduce the scenic value of the North Fork Mokelumne River. Limiting access to the river during construction will have temporary, and perhaps permanent, effects on its recreational values.

In recognition of the river's free-flowing condition and outstandingly remarkable cultural/archeological values, the Forest Service determined 19 miles of the North Fork Mokelumne River from Salt Springs Dam to the western boundary of the National Forest to be eligible for National Wild and Scenic Rivers protection in the 1988 Eldorado National Forest Land and Resource Management Plan (LRMP) (a FERC-recognized comprehensive plan). The agency subsequently determined the 6.5-mile Recreational segment of the river from Salt Springs Dam to a point upstream of the Bear River to be suitable and recommended to Congress its addition to the system. The remaining 12.5 miles of the North Fork is no longer considered eligible by the Forest Service and is not provided interim protection under agency Wild and Scenic guidelines. Nevertheless, Conservation Groups are certain that this 12.5-mile segment possesses additional outstandingly remarkable values beyond just cultural/archeological.

The 2012 National Forest Planning Rule requires forest plan revisions to reassess rivers and streams previously assessed for Wild and Scenic eligibility/suitability if changed circumstances "warrant" reassessment. If the Eldorado and Stanislaus Forest LRMPs were being revised today under the 2012 Rule, it is extremely likely that the Forest Service would reassess the river for outstandingly remarkable scenery, recreation, wildlife, and ecological values due to changed circumstances. These circumstances include:

1. The state Wild and Scenic designation of 37 miles of the North Fork and mainstem in 2018, which identified the river as possessing extraordinary scenery and recreation values. In the designation of state rivers, the California Legislature has, as a matter of practice, adopted federally identified outstanding values as state protected extraordinary values for virtually all rivers previously identified as eligible or designated in the federal system.

2. Improved Forest Service guidelines that better define outstandingly remarkable scenery, recreation, wildlife, and ecological values, since the 1988 version of these definitions was simplistic and not based on agency experience acquired over the past 30 years.

3. The BLM's determination that 20.2 miles of the North Fork and main stem Mokelumne from the Tiger Creek Afterbay (downstream of the western National Forest boundary) to Highway 49 is eligible/suitable due to its free-flowing condition and outstandingly remarkable scenery, cultural, and water quality values – From the "rivers system" perspective mandated by Forest Service guidelines, the BLM's downstream determinations would almost certainly support such determinations upstream on the National Forest segments.

4. Additional natural and cultural resources information documented since the original eligibility determination was made in 1988 – New information about wildlife and ecological values is available from the Project 137 relicensing and threatened and endangered species listings. In addition, the river has sustained increased recreational use overall and whitewater technology and expertise improvements now make running class IV-V rapids more feasible and popular than it was 36 years ago.

5. The explicit reason provided by the Forest Service to not recommend the 12.5-mile segment of the North Fork below the Bear River confluence was the proposal to build the Devil's Nose Dam on this segment – But since the Forest Service's decision to not recommend this segment in 1994, FERC rejected the license application to build this highly speculative dam project. In any case, the Devil's Nose Dam Project has since been precluded by state designation.

The Forest Plan Rule requiring reassessment of Wild and Scenic eligibility due to changed circumstances in forest plan revisions is critical to making an informed decision about potential Project impacts on the North Fork Mokelumne River. In addition, the state has an interest in protecting and enhancing the scenery and recreation values of the "immediate environment" of the state-designated North Fork Mokelumne Wild and Scenic River that extends beyond the first line of permanent riparian vegetation. The DLA should be revised accordingly.

2. Pertinent Forest Plan Management Area Direction

The proposed Project appears to fatally conflict with the management area direction, prescriptions, and guidelines in the Eldorado and Stanislaus National Forests LRMPs. These are comprehensive plans recognized by FERC. DLA Table E. 3-43, which addresses the LRMPs, describes general direction for Proposed Wild and Scenic River Management as,

> "Protect and enhance the Wild and Scenic River characteristics. To the extent of Forest Service authority, *no development of hydro-electric power facilities would be permitted*."[45]

It further states,

> "The Forest Service will recommend to FERC that a project on a river found eligible and suitable for inclusion in the Wild and Scenic Rivers System should not be licensed because it is inconsistent with the purposes for which the National Forest was created or acquired and, if necessary, impose conditions on any license issued for a project on that river that fully protect its outstandingly remarkable characteristics and free-flowing nature."[46]

This clearly applies to the 6.5-mile segment of the North Fork Mokelumne downstream of Salt Springs Dam, which has been recommended for National Wild and Scenic River designation. In order for this license application to proceed, the Forest Service must determine whether the Project adversely impacts the recommended segment of the North Fork, and if it does, recommend to FERC rejection of the license application.

The Eldorado National Forest LRMP also includes explicit direction for the protection of Special Interest Areas, including the Mokelumne Archeological SIA. General direction for SIAs provided in the LRMP is to:

> "Preserve the integrity of the botanical, archeological, geological, and recreational features for which the areas were established.[47]

Specific direction for the Mokelumne Archeological Special Interest Area:

> "If a hydroelectric project would be incompatible with a Special Area designation, recommend to the FERC that the proposal may affect the area and that use of that specific area for hydroelectric development would be inconsistent with the purpose for which the National Forest was created or acquired and inconsistent with the purpose of the Special Area."[48]

In order for this license application to proceed, the Forest Service must determine whether the Project adversely impacts the established Mokelumne Archeological SIA, and if it does,

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[45] See DLA, Exhibit E, Table E. 3-43, p. E-268. Emphasis added.
[46] *Id.*
[47] *See* Eldorado National Forest LRMP, pp. 4-3, 4-23.
[48] *Id.*, p. 4-148.

recommend to FERC rejection of the license application.

The Eldorado National Forest and Stanislaus National Forest LRMPs allocate the North Fork's river corridor from Salt Springs Dam to a point below the Mokelumne Campground under the visual quality objective (VQO) of Retention. Retention VQO ("provides for management activities not visually evident").[49] Applicable LRMP direction for such areas include:

> "Maintain the visual character of Foreground Retention areas for the pleasure of the viewing public…Practices or projects that will result in partial retention are not acceptable…Allow *short-term* reduction to partial retention on major non-timber projects that conflict with the Foreground-Retention objective…"[50]

It is important to note that only *short-term* reductions in Retention VQO are allowed. The permanent nature of the Project Infrastructure likely precludes this option in the Retention corridor along the North Fork.

The North Fork Mokelumne River corridor between Salt Springs Dam to a point downstream of the Bear River confluence is allocated to Scenic Corridors (Management Area 8) and Wildlife (Management Area 4) in the Stanislaus National Forest (SNF) LRMP. Direction for both areas is to "Maintain the visual character of Foreground Retention areas for the pleasure of the viewing public..."[51] For the portion of the river corridor allocated to Wildlife Management 4, there is further direction to "Design land and vegetation disturbing projects to meet Retention."[52] Proposed expanded powerlines and improved roads and bridges are unlikely to meet this Retention VQO standard.

Another management overlay in both LRMPs is the Recreation Opportunity Spectrum (ROS). The ENF side of the North Fork River canyon downstream of Salt Springs is classified as Roaded Natural ROS, which allows a wide variety of motorized use on roads and trails. However, the SNF side of the canyon is allocated to Semi-primitive Non-motorized recreation ROS. SNF LRMP direction for semi-primitive non-motorized areas is to "Provide for low to moderate levels of interactions between forest visitors…Evidence of other use is moderate."[53] This direction clearly requires a determination by the Forest Service as to the extent the proposed Project's impact on the recreational quality of these public lands.

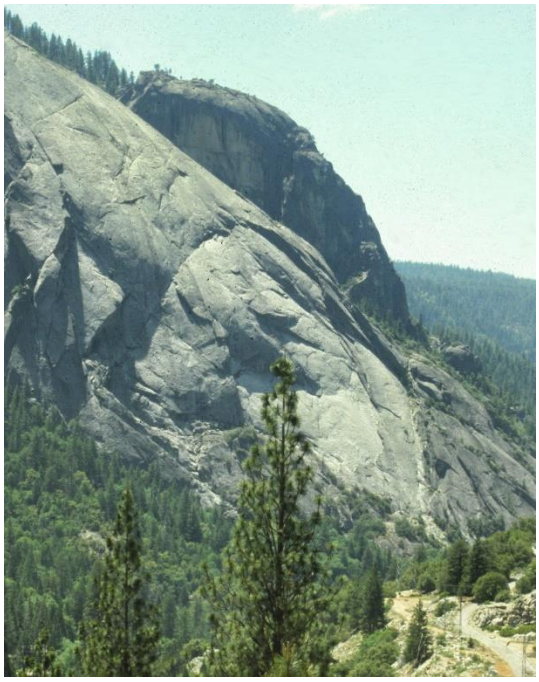
C. Transportation and Related Effects of Project Construction on Recreation

Road closures and traffic delays during construction will cause severe impacts to recreation, including wildlife viewing, hiking, climbing, camping, angling, hunting, and boating. In order that these impacts can be analyzed under NEPA, the licensee's plan for road management should be presented no later than in the FLA, rather than in a future separate permit

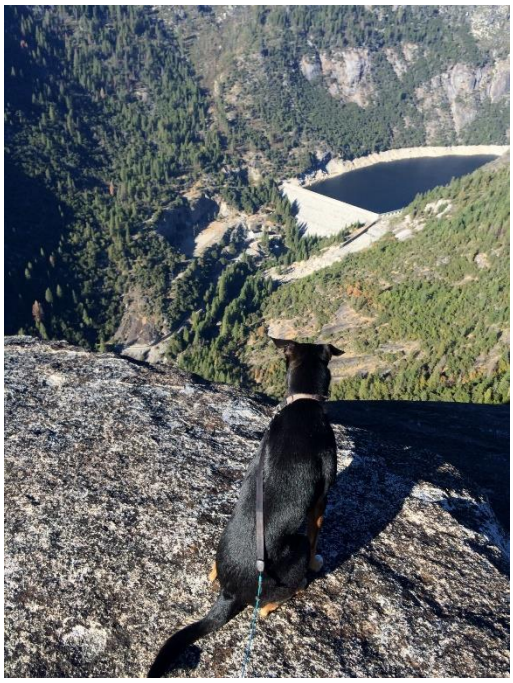
[49] *Id.*, p. 4-38.
[50] *Id.*, pp. 4-221 to 4.222.
[51] *Stanislaus National Forest Land and Resource Management Plan*, U.S. Forest Service, 1991. (LRMP). pp. IV-130, IV-172. Conservation Groups did not readily find an online version of this document.
[52] *Id.*, p. IV-130.
[53] *Id.*, p. IV-122.

process following license issuance. In addition to construction traffic per se, the road management plan should also evaluate transport of heavy equipment, concrete, steel, explosives, transformers, diesel and other fuels and oils, towers, and associated increased human presence of employees. In addition to recreationists, the road management plan should evaluate effects on access for Bear River Tract cabin owners, emergency services, forest thinning, and operations and maintenance of Project 137.

Further, construction activities corollary to road closures, and the associated road traffic, noise, and dust will deter people from use of the region for recreation users even when campgrounds, streams and rivers, trails, and other recreation venues are accessible by vehicle.



Calaveras Dome



Salt Springs Reservoir from top of Calaveras Dome

Devils Nose Run

Devils Nose River Access
Photos courtesy of Foothill Conservancy

Bear River Road, which is the only access to Bear River Reservoir and areas to the south, could be closed to the public between the north side of the Bear River Reservoir Dam and the intersection of Bear River Road and Tanglefoot Canyon Road.[54] This would reduce or eliminate access to the Bear River Homeowners' Tract, dispersed camping areas, recreation sites on the south side of the reservoir shore, campgrounds, the Spur 19 road along the Bear River Canyon, cultural gathering sites, and trailheads into the Mokelumne Wilderness and upper Bear River Canyon.

Temporary road closures of the access to the Tanglefoot (not "Tanglewood") Trail and Blue Hole Trail would highly constrain recreational access to the nearby portions of the Mokelumne Wilderness. The Blue Hole Trail is used by more day hikers and backpackers because it is relatively flat.

Construction traffic along Salt Springs Road would obstruct access to Salt Springs Reservoir, the Blue Hole Trailhead, and, downstream of Salt Springs, the three campgrounds downstream of Salt Springs Dam, rock climbing access to Hammer Dome and Calaveras Dome, the Devil's Nose whitewater boating access, fishing sites, and other recreational resources.

The proposed road closures and delays would basically eliminate use of the long Class III-V Devil's Nose run for whitewater boating in the spring. It currently takes a full day to make the run, including the shuttle.[55] Increasing or delaying the shuttle times, or delayed launch times, would make the run unusable.

The DLA describes mitigation for construction impacts to traffic and road closures in the immediate Project area, including identifying alternative access routes.[56] Conservation Groups would like to highlight that Spur 19 is not a feasible alternative access to the North Fork Mokelumne River for anyone towing a trailer, because Spur 19 is a very narrow and very steep Forest Service road. In addition, if Bear River Road is closed at the Lower Bear River Dam, Spur 19 will be inaccessible.

Exhibit E considers, as one option, "funding improvement to alternative access routes if they are required to support larger recreational vehicles."[57] If GreenGen is considering construction of new roads, widening of existing roads, or addition of access points, each would cause new impacts and should be detailed and analyzed in the FLA. In addition, proposed road improvements appear to be based on the need to widen roads and upgrade bridges to the extent sufficient for passage of vehicles associated with the proposed Project. Still further upgrades of roads would likely be needed to allow emergency vehicles, firefighting and forest thinning vehicles, as well as recreationists, to maintain existing or required levels of use during construction.

[54] *Id.,* p. E-283.
[55] Personal communication, Daniel Brasuell to Katherine Evatt, October 2024.
[56] *See* DLA, Exhibit E, p. E-291.
[57] *Id.,* pp. E-291—E-292.

Exhibit E states: "Motorists driving for pleasure and scenery viewing along State Highway 88 (Carson Pass Road) are unlikely to notice increased construction traffic associated with the proposed Project, as State Highway 88 is a major thoroughfare crossing the Sierra Nevada."[58] This claim is simply untrue.

GreenGen anticipates up to 100 truck trips per day associated with Project construction.[59] Half of these trips would involve left turns at Ellis Road or Bear River Road onto or off of Highway 88. Even at lower volumes of truck traffic, there would be frequent, almost constant slowing of traffic on Highway 88 at and near these intersections. Traffic lights may be needed. This does not include the additional traffic if tunnel spoils must be removed. In addition, trucks moving on (mostly two-lane) Highway 88 will slow traffic going both uphill and downhill. This discussion of traffic impacts in the DLA's statement frames the issue as one of seeing construction traffic from afar. "Brief reductions in quality of experience" is a term that no person who has regularly experienced congestion due to truck traffic on Highway 88 would use.

Exhibit E further claims that visual effects of construction activities for motorists driving in the Project area on roads other than Highway 88 would be "transient" because they pass through the construction area. However, describing these impacts as transient is misleading. Visual impacts to recreational users would in many cases continue once they reached a recreation destination, particularly those recreating along the North Fork Mokelumne River downstream of Salt Springs Reservoir. They would likely experience these impacts throughout the day.

The disclosure of construction impacts to preexisting public road users must be informed by a more complete description of the extent of construction road use and duration of access restriction and delays. Absent that information, it is impossible for the public and agencies to adequately evaluate Project impacts.

D. General Effects of Project Operation on Recreation

1. Lower Bear River Reservoir Shoreline Water Level Analysis

According to Exhibit E, the maximum shoreline length fluctuations would occur over the course of 7 to 12 hours, and would likely change the location of the shoreline 10-20 feet each day.[60] Table E. 3-45 documents potential changes in shorelines that would be much greater in some locations, like Camp Winton and Pardoe's Point under the 75th percentile scenario. Presumably, the figures provided in Table E. 3-45, refer to Figure e. 3-34, and measure the distance the shoreline moves up or down the bank as a distance perpendicular to the shoreline. The FLA should clarify how the measurements Table E. 3-45 describes are taken, as the term at the top of the table ("Change in LBRR Shoreline Length") is confusing, and suggests reference to the total circumference of the wetted shoreline.

Assuming this interpretation is correct, the values shown in Table E. 3-45 suggest that, absent a buoy, one could not moor a boat in the morning and then leave it in the water during the

[58] Id. p. E-284.
[59] *See* Initial Study Report, pdf p. 1323.
[60] *Id.* p. E-275.

day. Instead, one would have to pull the boat out of the water and away from the shoreline zone to avoid losing it or having it swamped due to the rising reservoir. In some cases, at some locations, the reservoir shoreline is estimated to have a daily change of up to 45.9, 72.4, or 32.9 linear feet during July and August.[61] This is especially problematic during peak summer recreation periods, when visitors are swimming, fishing, kayaking, and paddleboarding in the reservoir.

It is unreasonable and inaccurate to assert that there will not be long-term impacts to recreation due to changes to Lower Bear River Reservoir water surface and shoreline location. These fluctuations are likely to impair camping and day use around the reservoir by making lake access difficult and boating more hazardous.

Exhibit E graphs these reservoir fluctuations as median hourly reservoir elevation, which does not capture the intensity of shoreline migration in key areas.[62] Instead, the FLA should provide plots and data visualization of shoreline migration at key locations such as, at minimum, those cross-sections selected for analysis in Table E. 3-45.

2. General Long-Term Effects on Recreation

Improved infrastructure required by the project will directly impact the 6.5 miles of the North Fork Mokelumne River downstream from Salt Springs Dam. This river segment is a popular destination for public visitors, who camp overnight in three campgrounds (White Azalea, Moore Creek, and Mokelumne), fish and wade along the banks of the river adjacent to Roads 8N50 and 7N08, and enjoy the variety of rock-climbing routes on the Calaveras Dome and Hammer Dome. The Salt Springs Picnic Area and Trailhead is also a popular gateway to the Mokelumne Wilderness via the Blue Hole Trail and Salt Springs Dam boat ramp.

The Draft License Application states that most effects of the project on recreation are "anticipated to be temporary, lasting only during times when construction activities… decrease the quality of recreational experiences."[63] The DLA concludes, without evidence, that the project is consistent with the Eldorado National Forest Plan because user patterns are expected to return to previous levels post construction. Conservation Groups believe it is equally likely that users will, during the construction period, find other locations to recreate, and may not return to their previously preferred recreation locations within the Project vicinity.

Overall, more detail and analysis of Project interference with existing public uses is warranted. Absent that information, it is impossible for the public and agencies to adequately evaluate project impacts, including potential impacts to the local economy founded on tourism and associated revenue.

[61] *Id.*, Table E. 3-45, row 1, p. E-276.
[62] *Id.*, Figure E. 3-35, Figure E. 3-36, and Figure E, 3-37.
[63] *Id.*, p. E-281.

E. Corrections and Specific Issues of Fact Related to Recreation and Associated Issues

The FLA should make the following corrections:

- 3.9.1.1 Existing Recreational Uses and Facilities –
  - The document states, "The river is a State-designated Recreational River beginning approximately 0.5 mile downstream of the Salt Springs Dam…" This should instead say *State-designated California Wild and Scenic River*. "Recreational" is a classification under the California Wild and Scenic Rivers Act, and is based on the designated values for a given stretch of river (p. E-245).
  - Please add "fishing" to the list of dominant uses at the end of the first paragraph under 3.9.1.1 (p. E-245)

- 3.9.1.1.1 Scenic Driving – the Carson Pass Highway is also a designated National Scenic Byway. Please add this designation to the description (p. E-250).

- 3.9.1.2 Cabins, Camping, and Day Use Areas –
  - Para. 1 – Bear River Road is an Amador County road, which should be noted (p. E-250).
  - Para. 2 – In the description of fishing activities, please add that Bear River Reservoir is also known for its trophy-size Mackinaw trout (p. E-250).
  - Para. 8 – Incorrectly states that the boat launch is closed. The boat launch has been repaired and reopened (p. E-251).
  - Para. 11 – Please add the following red text to the first sentence: "These campgrounds are heavily used during the summer season and are enjoyed by families, whitewater boaters, rock climbers, anglers, hikers, bird watchers, and other day users…" (p. E-252).
  -
- 3.9.1.1.3 Whitewater Boating
  - Para. 1 –
    - States the Devil's Nose run is also referred to as the Salt Springs run. Please remove the reference to "Salt Springs run," as this is not a common or widely-used name (p. E-252).
    - The river ranger referenced in the last sentence is never on the east end, only on the Tiger Creek Dam run below the Tiger Creek Afterbay Dam. Please update this sentence to reflect that (p. E-252).
  - Para. 2 – Boating flows in the river also come from pre-spill flows through Salt Springs, not necessarily from spill or scheduled releases. Please clarify (p. E-252).
  - Para. 7 –
    - Please add the following red text to the first sentence, "The Tiger Creek Dam Run spans 3 miles from the put-in at…" (p. E-253).
    - Please include, after this paragraph, the Ponderosa Run, which is Class III from Ponderosa Way to Electra Powerhouse (p. E-253).
  - Para 8. –

        - Please add that the Electra Run also provides opportunities for kayakers and rafters when flows are high (700 cfs), and inner tubers when flows are lower (p. E-253).
        - The DLA suggests that only advanced whitewater boaters can continue to the Middle Bar Takeout below the Devil's Toilet Bowl rapid. This is not correct because less-skilled boaters can portage the rapid.

- 3.9.1.1.4 Fishing
    - Lower Bear River Reservoir also contains Mackinaw trout, also known as lake trout. Please include this (p. E-253).
    - In addition to the locations stated in Exhibit E, anglers also access the North Fork Mokelumne River (1) from the Calaveras side of the river downstream of Moore Creek, and (2) by walking on the Amador side from Salt Springs Road to the confluence of the North Fork Mokelumne and Bear River, which is an easy hike (p. E-253).
    - The DLA cites a 1979 study to assess the fishing on the North Fork Mokelumne River below Bruce Crossing. That study was done prior to the relicensing of PG&E's Project 137, which changed the North Fork Mokelumne flow regime, so it is likely no longer valid.

- 3.9.1.1.9 Winter Sports (p. E-255)
    - First sentence reads "North Folk;" change to "North Fork."
    - Backcountry and cross-country skiing are common in the Project area. The Tragedy Creek and Bear River drainages above the Upper Bear River Reservoir are popular with skilled backcountry skiers seeking a remote, undeveloped winter recreation experience. Please include a description of these activities in this section.

- 3.9.1.2 Recreation Needs and Management Goals
    - Table E. 3.41 – Please add "Proposed" to the label of the second column header, so that it reads "Proposed Project Facilities." The current label gives the appearance that the proposed facilities are allowed in the forest plan itself (p. E-256).

- 3.9.1.2.1 Mokelumne Wilderness Area
    - Para. 1 – Typo in final sentence, "Shiner Lake" should read "Shriner Lake."

- 3.9.1.2.3 Non-Recreational Land Use and Management
    - Para. 1 – The environmental report states, "The transmission lines between Kirkwood Meadows and the Salt Spring substation are buried and thus do not directly impact land use in the proposed Project vicinity. On Google Earth, power lines are visible from the substation above Salt Springs Reservoir moving down toward Lower Bear Reservoir. There is also a clearcut right-of-way for the power line visible from Highway 88. Conservation Groups recommend clarifying the location of undergrounding with Kirkwood Meadows Public Utility District General Manager, Erik Christeson.

- 3.9.3.1.1 Construction
    - In reference to CA WSRA designated rivers, "Recreational River," is not the correct terminology. "Recreational" is a classification. Instead, please use "state-designated Wild and Scenic River" (p. E-284).

- 3.9.3.14 Effects on Wild and Scenic Rivers
    - As noted above, changing the stream flow in Cole Creek could harm its eligiblity for National Wild and Scenic River designation. In addition, if road widening or other construction activities damage cultural resources, that could adversely affect the outstandingly remarkable cultural resource value and WSR eligibility of the North Fork Mokelumne River.

IX. 3.10 Aesthetic Resources

A. Concerns and Recommendations

There is no way to fully mitigate the visual impacts from a larger transmission line. The linear nature of a power line, the towers, the clearing of trees, and the cables conflict with a forested river canyon setting valued for its remote, scenic character, and the recognized visual quality of its wild and scenic river corridor. The larger transmission towers needed for the project would be out of scale with the surrounding forest. The larger clearance required so that the powerline right-of-way could accommodate taller towers would also be visually discordant with the forest and river canyon views.

Power transmission lines and towers are unavoidable adverse impacts on visual resources and should be listed in section 3.10.5.

Proposed measures to mitigate aesthetic impacts of the Project include, "paint the SSR switchyard with the appropriate color to have the SSR switchyard blend into the background/surrounding scenery,"[64] However, painting the switchyard to better match the surrounding environment would has limited efficacy, especially as the color of surrounding foliage changes with the seasons.

B. Corrections and Specific Issues of Fact

The FLA should make the following corrections and changes:

- 3.10.1.1
    - Figures E. 3-42 and E. 3-43 are misleading because they show the reservoir at a very low level, which could be misleading to those seeking to assess the visual impacts of the proposed project reservoir fluctuations. The DLA should also include here photos of Salt Springs Reservoir while full (p. E-297).
- 3.10.1.2

[64] Exhibit E, p. E-303.

- In the list, "Sensitive Resources around Salt Springs Reservoir include," please fix the last bullet to clarify that that stretch of river is designated as Wild and Scenic under California law, and classified as Recreational. It should read as (additions in red), "Mokelumne River (approximately 0.5 mile west [downstream] of the dam and designated Wild and Scenic under the California Wild and Scenic Rivers Act, and classified as Recreational)" (p. E-298).

- 3.10.1.3.2
  - Add a Known Observation Point on the North Fork Mokelumne bridge just east of existing campgrounds, looking downstream. This is a popular place to view the North Fork Mokelumne Wild and Scenic River and its unique geological features (p. E-299).
- 3.10.2.2 Study Area
  - Para. 2 states, "proposed Project facilities are located between Lower Bear Reservoir and Salt Springs Reservoir." However, the large switchyard is immediately downstream of Salt Springs Dam.
- 3.10.3.1 Potential Effects
  - Please add the larger (230kV) transmission towers and transmission line to the list of visual impacts (p. E-302).

X. 3.11 Socioeconomic Resources

The Socioeconomics section of Exhibit E assumes that the multiplier effects of construction worker wages and project expenditures will greatly benefit Amador County.[65] However, it also states that the vast majority of the construction workers are likely to commute to the Project site from San Joaquin and Sacramento counties. Workers are most likely to spend the bulk of their wages where they live, not at a remote job site with few local businesses nearby. We recommend that the FLA revisit assumptions about economic benefit to Amador County to take these factors into account.

In general, Exhibit E of the DLA reproduces the findings of the Socioeconomics Study (SO-2) that was presented with the Initial Study Report. The DLA does not respond to Conservation Group's comments on the ISR that questioned many of the premises of SO-2.[66] In brief, Conservation Groups' ISR comments noted:

> Deeper analysis is required to understand the potential impacts of large number of construction workers entering the local housing market. The nature of vacancies requires more precise description. The later description in the study report shows that the relatively high vacancy rate is likely attributable to a relatively high proportion of vacation housing and rentals. In addition, the low number (about 2727) of multi-unit housing units (including trailer parks) in Amador County increases the likelihood of housing cost impacts near the bottom end of the housing market.

[65] *Id.*, p. E-308.

[66] *See* Conservation Group's Comments, Initial Study Report (Apr. 16, 2024), eLibrary no. 20240416-5129, p. 4.

> Increased demand for limited apartments may price out local residents. Any new housing built to serve construction workers for the project may devalue as the project is completed. …
>
> Finally, much of the economy of Amador County centers on recreation. If available lodging is disrupted for three or more years, or if the enjoyment of the County's natural resources is diminished by traffic or other construction impacts, the County may see a long-term loss of repeat visitors, who may seek and become attached to alternative venues.[67]

The socioeconomic benefits and impacts will also vary based on the duration of construction. The construction period stated for traffic analysis is 60 months, but in other parts of the DLA is stated as 38 months. Considering the uncertainty about the duration of the construction period, the FLA should include analyses that assume the shortest period as well as the longest period in evaluating the economic effects of construction on local counties and other potential construction-related project impacts.

The project will likely have impacts on emergency services on the roads used to access the project and in the project area itself. Injuries on the job site that require emergency response may call on the American Legion Ambulance Service, U.S. Forest Service, CalFire and Amador Fire Protection District first responders, and injured workers are likely to need treatment at Sutter Amador Hospital in Jackson, the closest hospital emergency department. The FLA should evaluate such impacts on local emergency services.

The DLA assumes that operations and maintenance expenditures will mainly benefit Amador County; however, there is no evidence that the ongoing workforce will reside in the county or that the goods and services the project purchases will be available from county businesses.

XI. 3.12 Traffic

A. Concerns and Recommendations

Section 3.12 of Exhibit E of the DLA that addresses traffic shows little response to Conservation Groups' comments on Initial Study Report's Traffic Study.[68] As discussed above, the licensee anticipates up to ~100 truck trips per day (not including additional traffic if tunnel spoils must be removed from the area) associated with Project construction. The DLA still does not adequately address this level of truck traffic.

Half of these trips would involve left turns at Ellis Road or Bear River Road onto or off of Highway 88. Even at lower volumes of truck traffic, there would be frequent, almost constant slowing of traffic on Highway 88 at and near these intersections. Traffic lights at the intersections of Highway 88 with Bear River Road and Ellis Road would likely be needed.

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[67] *Id.*
[68] *Id.*, pp. 7-8.

GreenGen will also likely need to establish a staging area adjacent to Highway 88, which is likely to require its own traffic light.

As also mentioned in the Forest Service's comments on the DLA, the traffic analysis in Exhibit E still does not acknowledge the likely use of Mormon Emigrant Trail (Forest Service Road 10N50) for construction access to the Project.[69] This road is the most heavily used route from communities along U.S. Highway 50 to the area of the proposed Project in the summer and falls months in which it is not closed due to snow.

Increased construction worker and truck traffic to and from the project site will likely affect Amador County roads, Sly Park Road, the Mormon Emigrant Trail, Highway 49, Ridge Road from Highway 49 to Pine Grove, Climax Road from Ridge Road to Highway 88. Smaller feeder roads in Amador County, such as Fiddletown Road and Shake Ridge Road, will also be affected by worker traffic.

Routine Caltrans highway maintenance delays in summer must be factored into the project traffic analysis. Data on those activities should be readily available from Caltrans.

The construction period stated for traffic analysis is 60 months, but in other parts of the DLA it is stated as 38 months. Considering the uncertainty about the duration of the construction period, the FLA should include analyses that assume the shortest period as well as the longest period in evaluating the economic effects of construction on local counties and other potential construction-related project impacts.

B. Corrections and Specific Issues of Fact

The FLA should make the following corrections and additions:

- Figure E. 3-44 should include Morman Emigrant Trail and Sly Park Road.
- 3.12.3.1, Roadways: Add Climax Road (truck route) to L-7 on page E-315
- 3.12.1.5, Pavement Condition: Should include pavement condition for local roadways from Amador County's most recent study
- 3.12.3.1.2. The daily trip analysis related to project operations also needs to include deliveries of goods and services to the project and any nonemployee related traffic related to the facility.
- 3.12.4. Suggests that traffic be minimized during the busiest traffic season, May – September, but that is impossible considering that those are the most likely months in which high-elevation construction can take place.

XII. 3.12 Air Quality

Absent information on the air quality impacts of the project, the DLA should be considered incomplete. The Vehicle Miles Traveled analysis is critical for analyzing GHG

[69] *See* USDA Forest Service comments on the DLA (Nov. 26, 2024), eLibrary no. 20241126-5180, Att. A, p. 2.

emissions and other air pollution parameters, as is data on the amount of dust expected from project activities.

CONCLUSION

Thank you for consideration of these Comments of Conservation Groups on the Draft License Application for the Mokelumne Pumped Storage Project. Please contact Brian Jobson at the Foothill Conservancy if you need additional information or have any questions.

Respectfully submitted,

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