

From: [LTEMPSEIS, BOR-SHA-UCR-](#)
To: [Brianna Zurita](#)
Subject: FW: [EXTERNAL] AZ Public Power LTEMP SEIS Letter
Date: Tuesday, March 19, 2024 6:07:20 AM
Attachments: [AZ Public Power LTEMP SEIS Comments 3-15-24.pdf](#)

Thank you,

Valerie

From: Ed Gerak <ed.gerak@ieda-az.org>
Sent: Friday, March 15, 2024 9:03 PM
To: LTEMPSEIS, BOR-SHA-UCR- <bor-sha-ucr-ltempseis@usbr.gov>
Cc: 'Glen Vortherms' <GlenV@mwdaz.com>
Subject: [EXTERNAL] AZ Public Power LTEMP SEIS Letter

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Please find the attached comments regarding the LTEMP SEIS. We were informed today that updated information was shared pertaining to the LTEMP SEIS, specifically from WAPA. As such, we reserve the right to comment on this additional information. It is unfortunate that the LTEMP SEIS was updated with new information with just a little over a week before comments are due. This further supports our position that this process was rushed and flawed.

Ed Gerak
IEDA Executive Director



ARIZONA MUNICIPAL POWER
USERS' ASSOCIATION



GRAND CANYON STATE ELECTRIC
COOPERATIVE ASSOCIATION



ARIZONA POWER
AUTHORITY



IRRIGATION & ELECTRICAL DISTRICTS'
ASSOCIATION OF ARIZONA

US Bureau of Reclamation
Attn: LTEMP SEIS Project Manager
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Salt Lake City, UT 84138
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March 15, 2024

**Re: Draft Glen Canyon Dam Long-Term Experimental and Management Plan
Supplemental Environmental Impact Statement (LTEMP SEIS) (Federal Register Notice,
Vol. 89, No. 28, February 9th, 2024)**

On behalf of Public Power interests in Arizona, the Arizona Municipal Power Users' Association (AMPUA), Arizona Power Authority (APA), Grand Canyon State Electrical Cooperative Association (GCSECA) and Irrigation and Electrical Districts Association (IEDA), submit the following comments in response to the Draft LTEMP SEIS published in the Federal Register on February 9th, 2024.

AMPUA is an association of Arizona public and consumer owned power entities including irrigation districts, electrical districts, electric cooperatives, municipally owned electric systems, Salt River Project, and Central Arizona Project. The majority of AMPUA's members have contracts for federal hydropower.

The APA is a corporate and political body of the State of Arizona. The Authority is the designated contractor for the entitlement of the State of Arizona in electric capacity and energy associated with the Hoover Dam. The Authority markets and schedules this entitlement to 63 power customers throughout the state of Arizona, consisting of tribes, cities and towns, irrigation and electrical districts, and the Central Arizona Water Conservation District.

GCSECA is a membership trade organization consisting of six Electric Distribution Cooperatives and the Arizona Generation and Transmission Cooperatives who collectively serve

approximately 450,000 rural residents across 12 counties in Arizona. GCSECA's member cooperatives are rural, not-for-profit utilities that are owned and governed by the people they serve.

IEDA represents 25 members, 15 of whom hold contracts with the Colorado River Storage Project. IEDA has been in existence since 1962, with a primary purpose of protecting the contracts of its members for federal hydropower.

Purpose and Need

As we have mentioned in the past, the "purpose" of pursuing improvements in the LTEMP should be expanded beyond only flow options to address short, mid, and long-term needs.

The rush to complete this SEIS by the Summer of 2024 (Draft SEIS-page 22) is resulting in a flawed process by strictly focusing on flow alternatives. A proper and thorough evaluation of alternative prevention methods should be included in this SEIS, not in a later NEPA process, because the issues being addressed have persisted for some time, including before the finalization of the LTEMP FEIS.

Drought has persisted in the Colorado River Basin since 2000, resulting in occurrences where water downstream of Glen Canyon Dam has reached 16°C at RM61 as early as 2005 (https://gcdamp.com/images_gcdamp_com/9/95/Temperature_bl_LCR_1990_2015.jpg).

Nonnative, warmwater fish have been detected downstream of Glen Canyon Dam for over 20 years. Green sunfish were rotenone poisoned in 2015, and biologists have recommended that the Bureau pursue prevention of fish passage from the dam since 2016. (<https://www.wired.com/story/the-fight-against-the-smallmouth-bass-invasion-of-the-grand-canyon/>)

While we support the concept of preventing establishment of smallmouth bass and other nonnative, warmwater, invasive fish (page 19), the issues being addressed existed in 2016 and should have been addressed in the LTEMP FEIS, or this SEIS should have included nonflow prevention methods (page 20) based on seven years of awareness that nonnative, invasive fish could impact humpback chub downstream of Glen Canyon Dam.

We find the representation that smallmouth bass is a **new** problem in the "Purpose and Need" section erroneous. The purported inclusion of the "latest scientific information" for HFEs was found lacking in the document. While mentioned later in the document, the absence of inclusion that warmer water potentially benefits the humpback chub is a glaring omission in the "Purpose and Need" section.

The absence of alternative prevention methods suggests a predetermined outcome. This is expressed clearly in the SEIS on page 27 ("Reclamation would like the flexibility to implement temperature-based flow options to target smallmouth bass").

Alternatives

We appreciate the inclusion of the Non-Bypass Alternative. Given the lack of justification for exclusion in the Smallmouth Bass EA and the responses from stakeholders, inclusion of this alternative was necessary.

As mentioned in the “Purpose and Need” section, the alternatives do not go far enough to address the nonnative, warmwater, invasive fish downstream of Glen Canyon Dam. These alternatives are missing nonflow options that could prevent entrainment through the dam and fails to address nonnative hotspots like the -12 Mile Slough. We question whether some of the flow alternatives will inundate the slough, as some of its elevation sits above the normal river channel. Certain areas, like the -12 Mile slough, should be permanently modified to eliminate a warm water area conducive to nonnative fish establishment. In our opinion, the proposed channel (mentioned during the Annual Reporting meeting) through the slough will fill with sediment after the first HFE. Permanent actions, like fish curtains and slough excavation, should ultimately be included in the LTEMP SEIS, in addition to the proposed flow alternatives.

We also assert that the proposed alternatives should have guardrails to ensure that these experiments are only considered when necessary. If the elevation in Lake Powell gets high enough, release temperatures through the penstocks from the hypolimnion will be cool/cold enough to prevent establishment downstream without bypass flows.

Temperature

Warm water downstream of Glen Canyon Dam is not a new phenomenon and is likely the reason for the improvements in the humpback chub population resulting in a downlisting (from endangered to threatened). This is acknowledged in the SEIS (page 176 & paragraph below) but impacts to humpback chub from cool/cold water are not discussed in this draft.

Starting in 2004, the temperature of water released through Glen Canyon Dam increased in summer and fall when lower levels in Lake Powell allowed warm surface water to be entrained in the penstocks. Warmer releases of up to 16°C were reported in late summer and fall through 2015, but the magnitude and duration of these warm water releases have varied by year. This temperature increase has enhanced the growth of Humpback Chub in Grand Canyon and allowed greater mainstem residence and possibly reproduction in western Grand Canyon (Kegerries et al. 2016; Rogowski et al. 2017). The warmer temperature may also allow for expansion of warm-water nonnative fish species. (USFW Species Status Assessment for the Humpback Chub – March 2018)

Figure 3-23 (page 109) is very telling in the life cycle of native fish. They benefit from warmer waters in the river. It appears that the nonnative trout are the ones who would benefit the most from cooler/colder water.

<https://deeply.thenewhumanitarian.org/water/articles/2017/05/15/calls-to-rethink-the-colorado-rivers-iconic-dams-grow-louder>)

Therefore, how can cool/cold flows be prioritized when warmer water benefits the humpback chub? It should be especially concerning that the SEIS contemplates increased HFEs or flow spikes, which would transport nonnative fish into humpback chub populations downstream of Glen Canyon Dam.

HFEs

HFEs have been utilized since 1996 and could be the most efficient mechanism to build beaches. However, they may also be the biggest threat to native fish because of their transport mechanism of nonnative fish downstream (page 140). As the only currently allowed mechanism to rebuild beaches, alternatives should be developed that allow for beach building without HFEs to prevent depositing nonnative fish downstream.

Spring HFEs have been attributed to aiding trout in the past as well as building beaches over the rafting season, but they also change shorelines (page 167) that could impact backwaters and native nesting sites. They can also move nonnative, warmwater fish downstream when they are very active, as they seek to feed and renourish themselves.

We continue to have concerns with the impacts of HFEs on the system, including increased erosion/wear on the bypass tubes and the potential to utilize them in high power demand months (June-August). There are conflicting statements in the SEIS regarding non-HFE years due to warmer weather and entrainment of nonnative fish (page 19). HFEs were not held during certain years because of nonnative fish being discovered downstream of Glen Canyon Dam. If HFEs were avoided because of the rationale stated, then flow spikes (similar to HFEs) should not be included in the flow alternatives.

In addition, HFE protocols should be adhered to in the future, such that any HFE cannot be performed if they do not meet the requirements (page18).

Economics/Hydropower

Hydropower is a primary authorized purpose of the CRSP Act, and it should be protected (page 2).

As such, analysis of the impacts to hydropower should be performed by the subject matter experts (Western Area Power Administration). The SEIS states that economic models used by Grand Canyon Research and Monitoring Center (GCMRC) are based on standard energy economic analysis methods from (Harpman) 1999 (page 75). The energy market today is drastically different than the one from 25 years ago. The historical locational marginal price used pricing from 2020 to 2023 (page 76). These years include COVID energy prices, an outlier that skews and minimizes the impacts. The modeling was also performed for one week in the month and extrapolated over the entire month (page 76). Energy prices are highly volatile and weather dependent. This extrapolation has resulted in flawed economic modeling by GCMRC. The price comparison between the GCMRC and WAPA data translates to nearly a \$30/MWh

price difference (page 82). We feel that even the highest purchase power value used (\$117/MWh) is insufficient to reflect the true cost of replacement power during the cool/cold flows. Therefore, we recommend that the modeling from GCRMC related to hydropower be removed.

Economic value, as presented in the SEIS, was confusing, inconsistent, and lacked consideration of electric grid dynamics. In reviewing the draft, the meaning of loss of economic value was not clear. What was clear was that the grid impacts due to reductions at Glen Canyon Dam were not evaluated in context of the market. Summer purchase power can exceed \$300/MWh, and scarcity pricing can skyrocket costs into the thousands per MWh.

There also seems to be a lack of understanding by those who drafted the SEIS on how the shift towards electrification is increasing demand, while supply is lagging. Resource adequacy and grid reliability are a major area of concern for FERC/NERC, but the SEIS presents a false narrative regarding new renewables eliminating the need for generation at Glen Canyon Dam (page 195). In reality, these renewables will increase the reliance on hydropower to help balance the grid.

We also find a disparate analysis of nonuse in relation to hydropower. There is an abstract reference to nonuse hydropower value (page 254) but a very descriptive comparison of nonuse values for the environment. Included later (page 261), there are very specific (if not overstated) net values of whitewater boaters and anglers but none for hydropower impacts. A true comparison between the 40+K rafters' economic value and the 4M power customers should be included in the SEIS, as should the baseline generation value that Tables 3-13 to 3-28 utilize.

Air Quality

Air quality is very specific to pollution sources, airflow, topography, and precipitation. While the utilization of the WECC 11 State grid average emissions factor of pollutants for replacement power is rational, comparing the increased pollution on a percentage basis based on this regional area minimizes the true increase in tons. A more comprehensible comparison would be to equate the increased tons of pollutants to vehicles on the road. For example, the increase of 33,750 Metric Tons of CO₂ (Table 3-60) is roughly equivalent to 6,275 gas power cars on the road.

Modeling

Modeling assumptions throughout the SEIS appear speculative or limited. Terms like "assumed..., but not confirmed" (page 102), "unproven models" (pages 151/152), "several limitations...modeling results" (pages 155 & 183), "conceptual, as opposed to predictive" (page 183), "recalibration" (page 209) and "no model exists" (page 369) call to question the information presented. Decisions based on flawed data often result in flawed decisions.

History of Glen Canyon

Construction of Glen Canyon Dam dramatically changed the flows of the Colorado River, but it is not responsible for the nonnative, invasive species that were introduced.

Tamarisk, introduced by the US Department of Agriculture, reached the Grand Canyon in the late 1920s and early 1930s. While the potential to scour these invasive trees has been severely limited because of flow limitations at Glen Canyon Dam, the dam is not responsible for the impacts to beach building that Tamarisk prevent downstream of the dam because they existed before the dam. Nor are they called out in the SEIS for the impacts to aeolian transport and how they limit cultural resource protection.

Piscivorous, nonnative fish (rainbow trout, brown trout, green sunfish, smallmouth bass, etc.) consuming humpback chub (et. al) is not caused by the dam because they did not exist prior to the 1900s. Some of these fish were introduced prior to the dam, creating a situation where native fish became part of the diet of introduced species. Responsibility for controlling nonnative fish should not fall on the hydropower customers, as the dams were not responsible for the introduction of these piscivorous, nonnative fish.

Biases

The biases expressed in the SEIS are concerning and indicative of a failed process. This is self-evident in the statement that the “Reclamation would like the flexibility to implement temperature-based flow options to target smallmouth bass” (page 27). This is further reinforced by describing the alternatives as “smallmouth bass alternatives” (page 28).

The Non-Bypass flow alternative seems targeted by mentioning its impact to shoreline stability, but the SEIS does not mention something similar with regards to HFEs (pages 157 & 166).

The inclusion of statements such as, “individuals owning property in the region around Glen Canyon Dam are considerably more likely to support continuation of dam operations” and “(t)hese people are more likely to receive the benefits of Glen Canyon Dam hydropower at their property and are, therefore, more likely to be personally affected by the economic viability of communities that receive low-cost hydropower” (Jones et al. 2016) (page 264) reflect a bias against hydropower. CRSP power is delivered over the majority of five states. Perhaps their support of hydropower is based on a comprehension of the benefits it provides, not just based on the proximity to Glen Canyon Dam.

Conclusion

This SEIS is a continuation of a flawed process first seen last year in the Smallmouth Bass EA. The lack of inclusion of nonflow alternatives, despite multiple years dealing with these issues, highlights its deficiencies.

Based on the benefits that warm water provides to the humpback chub, we feel that the benefits of cool/cold water flow alternatives are overstated, or the pros are not adequately contrasted to the cons. If the viability of the humpback chub is the main concern, alternatives that reduce HFEs and the transportation of nonnative fish downstream, instead of increasing their frequency, should be contemplated.

Hydropower generation is a primary purpose of the CRSP Act but continues to see a decline in production because of the 1995 ROD and 2016 LTEMP. The analysis performed regarding hydropower impacts is insufficient to reflect the true costs of these alternatives.

Since cool/cold water impacts could have a negative impact on humpback chub, we support the Non-Bypass alternative as the only one that will benefit the humpback chub and improve hydropower production.

If Reclamation insists on having a cool/cold water flow alternative, we must insist that it does not select either cool water alternative and that the alternative have sufficient guardrails as to Lake Powell elevations that preclude these experiments from being performed if the lake is above an elevation that might entrain nonnative fish.

Sincerely,



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