



— BUREAU OF —  
RECLAMATION

# Glen Canyon Dam Long Term Experimental and Management Plan Supplemental Environmental Impact Statement

Public Scoping Meeting  
October 2023



— BUREAU OF —  
RECLAMATION

# Glen Canyon Dam Long-Term Experimental and Management Plan Supplemental Environmental Impact Statement (LTEMP SEIS)

Virtual Public Scoping Meetings – October 18 and 20, 2023

For technical support, please contact Jessica Sams: [jessica.sams@swca.com](mailto:jessica.sams@swca.com)

# Public Scoping Meeting Agenda

- **Introductory Remarks and Welcome**
- **Presentation**
- **Public Comment**
- **Closing Remarks**





# Zoom Orientation



Webinar is being recorded



Microphones are muted



Chat feature is turned off



Submit comments using Q&A during the Public Comment Period



Q&A

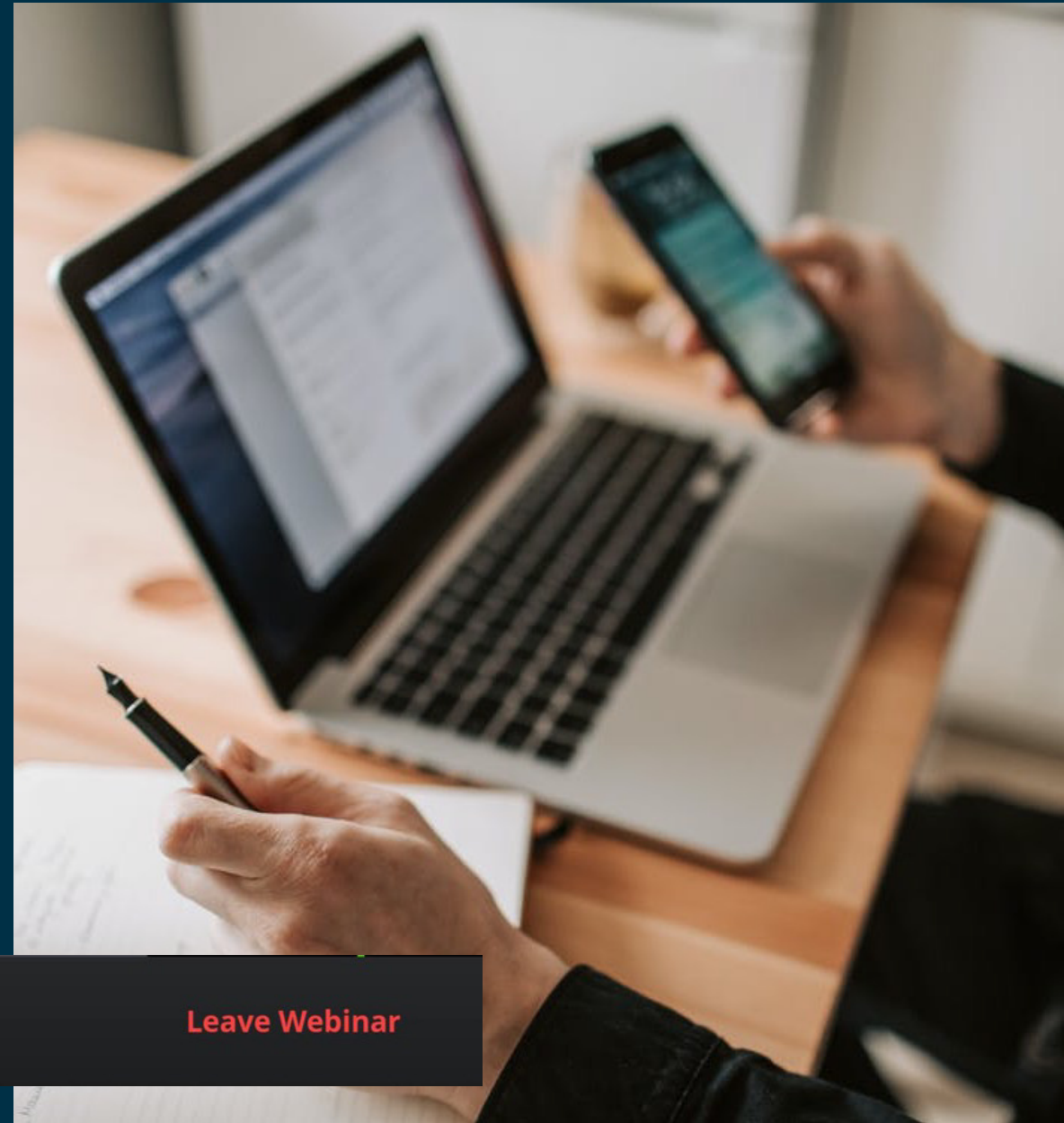


Chat



Raise Hand

Leave Webinar

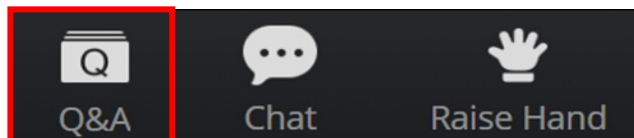


# Questions about the Presentation?

## How to submit a question

- Click the Q&A button
- A box will pop up
- Type your question
- Click send
- Responses to questions will appear in the Q&A box

Questions are not part of the project record







— BUREAU OF —  
RECLAMATION

# Welcome

Kathleen Callister, LTEMP SEIS Project Manager  
Bureau of Reclamation





BUREAU OF  
RECLAMATION

# Presentation

## OVERVIEW

- Background
- Purpose and Need
- Schedule



# Background

## December 2016 - Reclamation published *Long-Term Experimental and Management Plan (LTEMP) Record Of Decision*

- Provides a framework for adaptively managing Glen Canyon Dam operations consistent with the Grand Canyon Protection Act (GCPA).
- Identifies specific options for dam operations based on hourly, daily, and monthly release patterns.
- Identifies appropriate experimental and management actions that meet the GCPA's requirements, hydropower production, and improving downstream resources, including those important to American Indian tribes.





# Glen Canyon Dam Adaptive Management Work Group (AMWG)

- Created under The Grand Canyon Protection Act (1992)
- AMWG is a Federal advisory committee.
  - Membership appointed by the Secretary of Interior with representation from federal agencies, tribes, Colorado River basin states, environmental groups, recreation interests, and contractors for federal power from Glen Canyon Dam.
- Recommends resource management objectives and necessary research required to determine the effects of the operation of Glen Canyon Dam, including natural and cultural resources, and visitor use.



# Warm Water Invasive Species

- Colorado River Basin prolonged drought resulting in lower reservoir elevations.
- Lake Powell elevation decline – the *epilimnion* (upper layer of water) where most fish reside is closer to the Glen Canyon dam's intakes.
- Nonnative fish in Lake Powell are now more likely to pass through the dam and downstream into the Colorado River.
- Water below the dam is now warmer making conditions suitable for warmwater nonnative fish including smallmouth bass.
- Smallmouth bass and other predatory invasive fish pose a threat to federally listed fish species and other native fish downstream.





# High Flow Experiments (HFEs)

- HFEs are experiments to further understanding of incorporating high water releases into future dam operations to maintain or improve beaches, sandbars, and associated habitat.



# Glen Canyon Dam/Smallmouth Bass Flow Options Draft Environmental Assessment (EA)



— BUREAU OF —  
RECLAMATION

## **Glen Canyon Dam/ Smallmouth Bass Flow Options Draft Environmental Assessment**



US Department of the Interior  
Bureau of Reclamation  
Upper Colorado Basin Region  
125 South State Street, Room 8100  
Salt Lake City, UT 84138

February 2023

- Published February 2023
  - Evaluated operational alternatives at Glen Canyon Dam that may serve to disrupt spawning of smallmouth bass and other warmwater invasive fish that pass through the dam.
  - Nearly 7,000 comments received with many comments focused on the effects to hydropower generation and revenues as well as the effects on Tribal resources.
  - Reclamation concluded that additional analysis was warranted.





# Purpose and Need

- The purpose of the LTEMP SEIS is for Reclamation to analyze additional flow options at Glen Canyon Dam in response to invasive smallmouth bass and other warmwater nonnatives recently detected directly below the dam.
- The need is to prevent the establishment of smallmouth bass below the Glen Canyon Dam (by preventing additional spawning), which could threaten core populations of threatened humpback chub in and around the Little Colorado River and its confluence with the Colorado River mainstem.
- The LTEMP SEIS will also consider the HFE protocol by including the latest scientific information to improve Reclamation's ability to implement HFEs as originally intended in the LTEMP EIS. Specifically, Reclamation is considering adjusting the sediment accounting periods.



# Preliminary Proposed Action

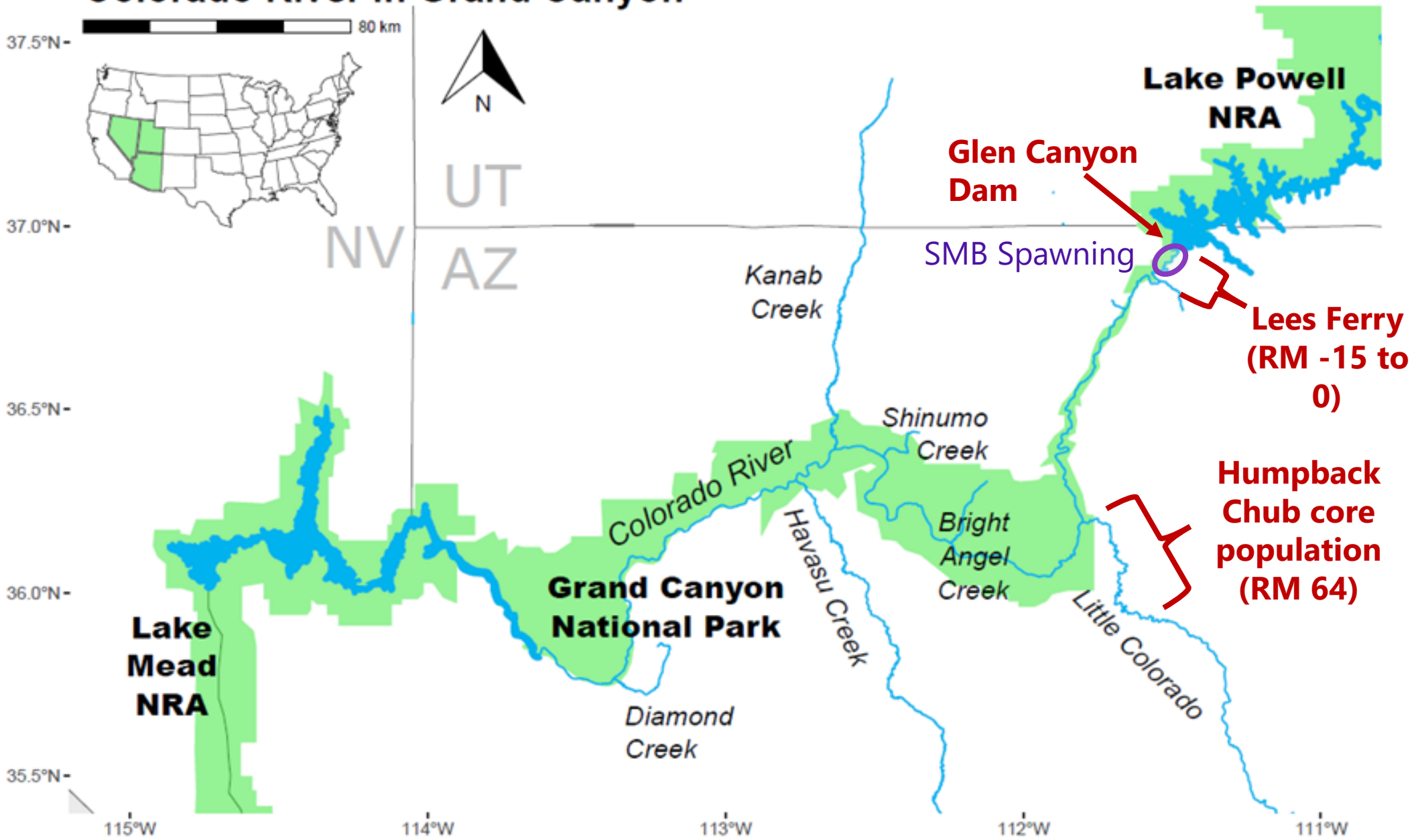


- A range of reservoir releases with temperature and/or flow velocity combinations will be analyzed to determine efficacy of their ability to disrupt and prevent smallmouth bass spawning behavior.
- Analyze the sediment accounting periods and implementation windows associated with the HFE protocol analyzed in LTEMP EIS.

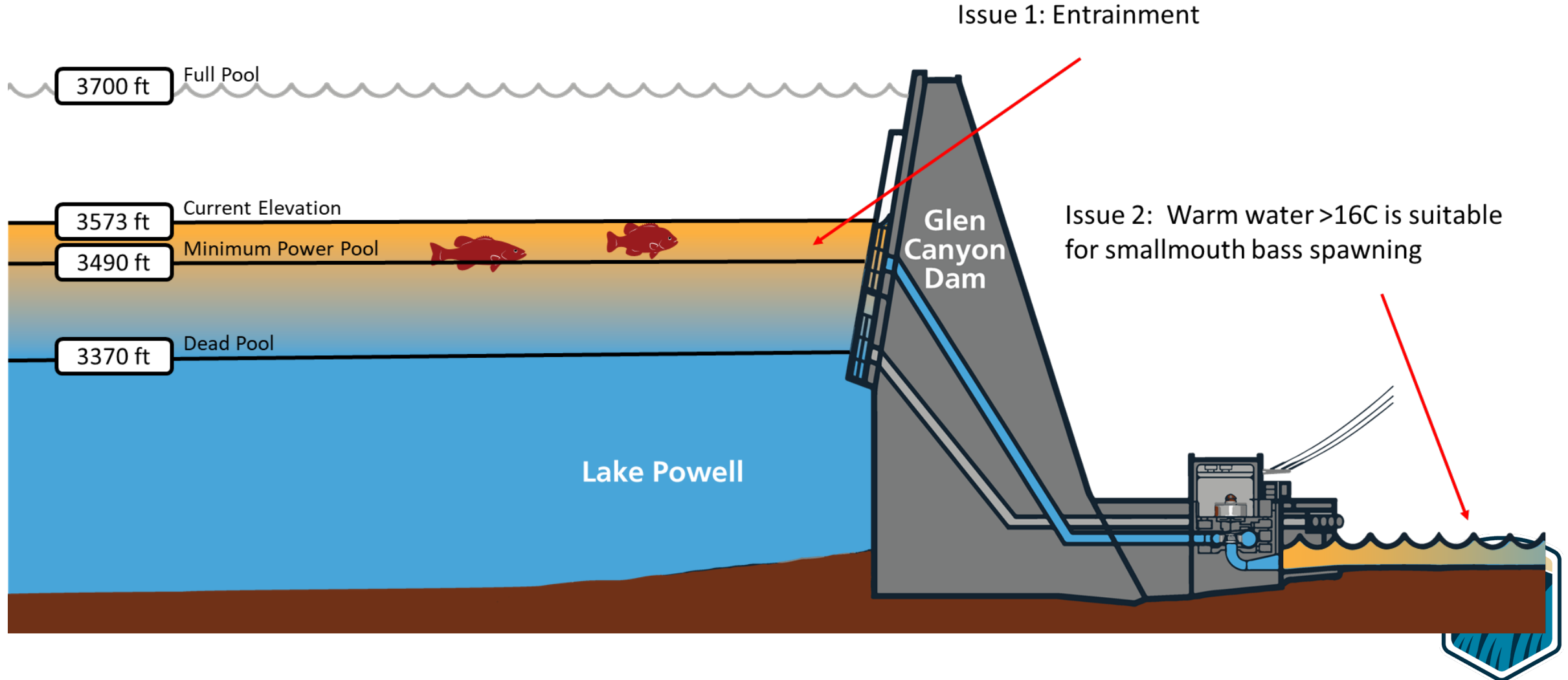




# Colorado River in Grand Canyon



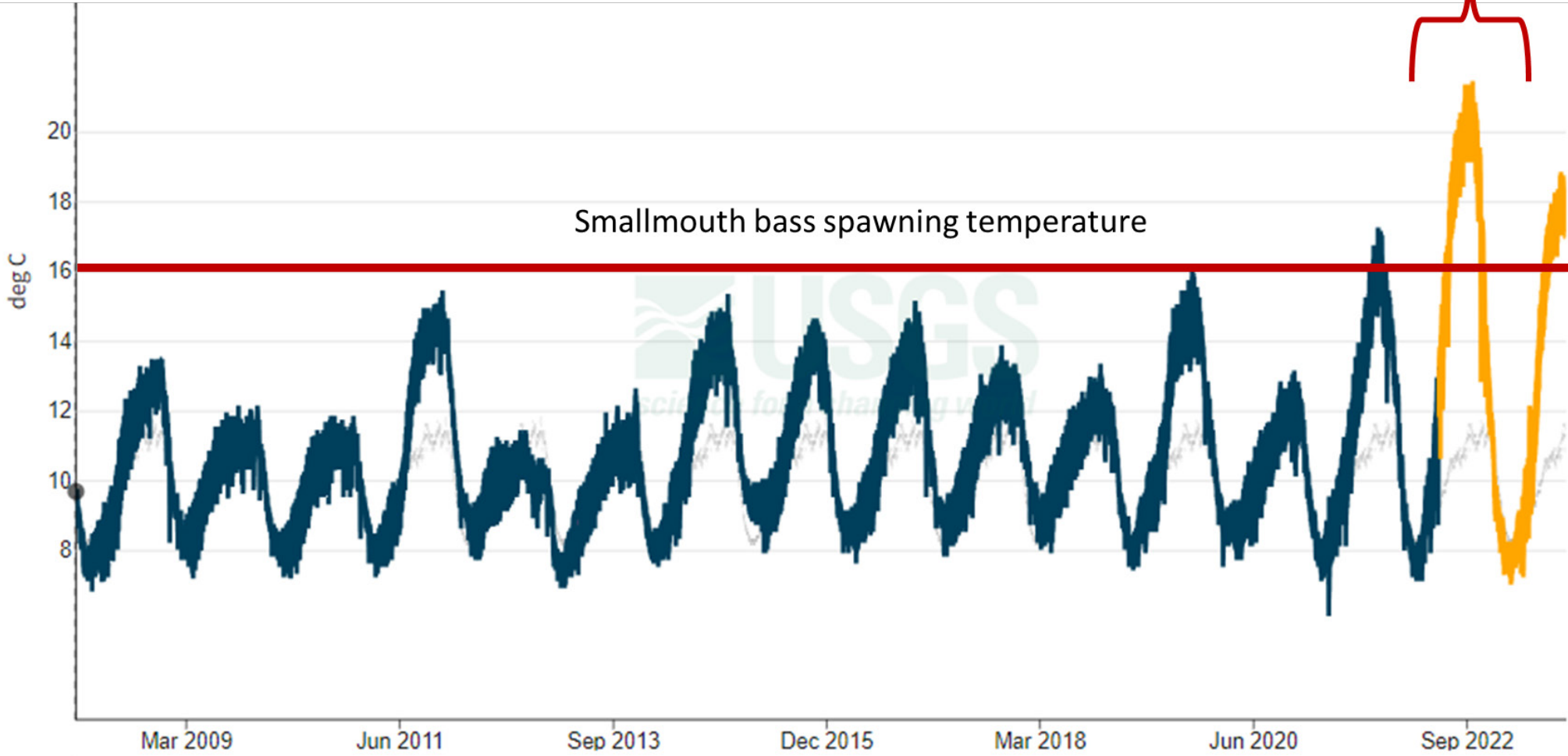
# Invasive Threat to Native Fish



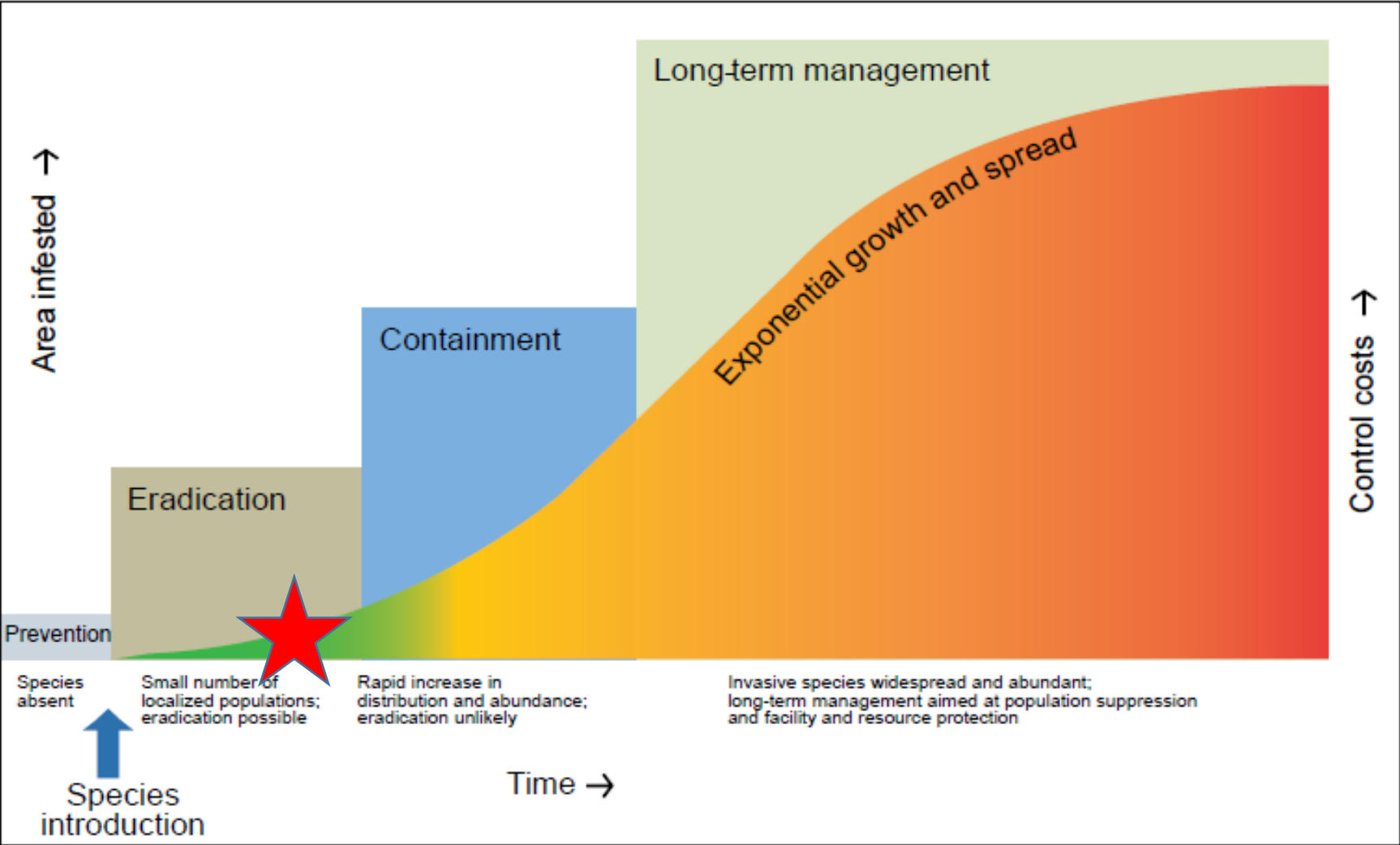


# Water Temperature at Lee's Ferry (15 miles below Glen Canyon Dam)

Entrainment Window



# The Invasion Curve from DOI Invasive Species Strategic Plan (2021-2025)





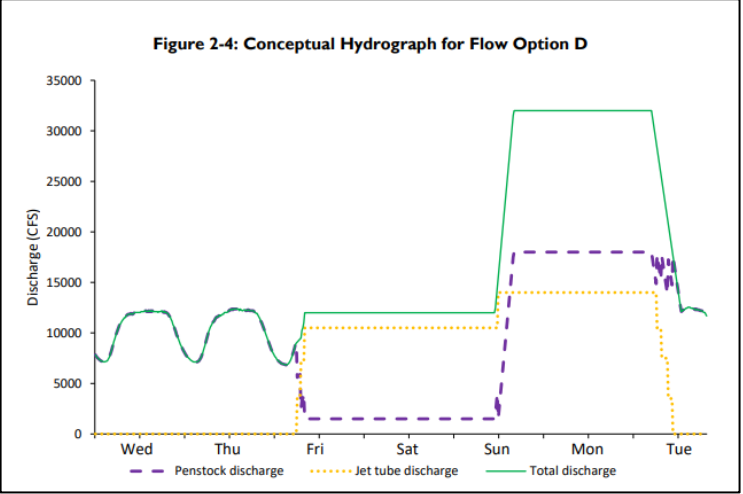
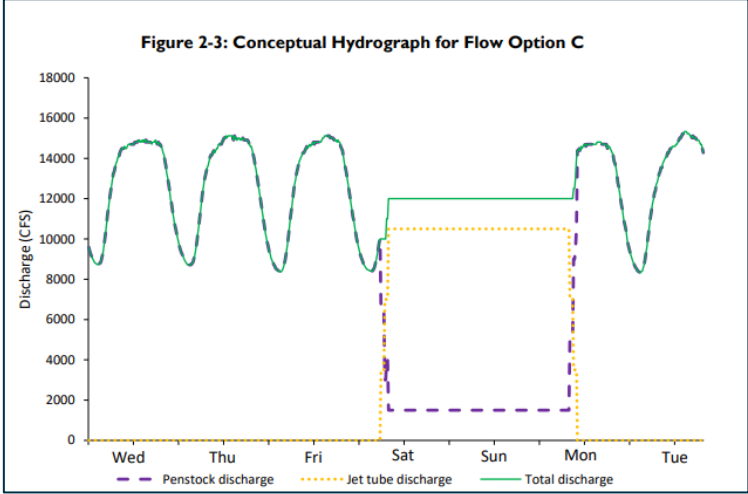
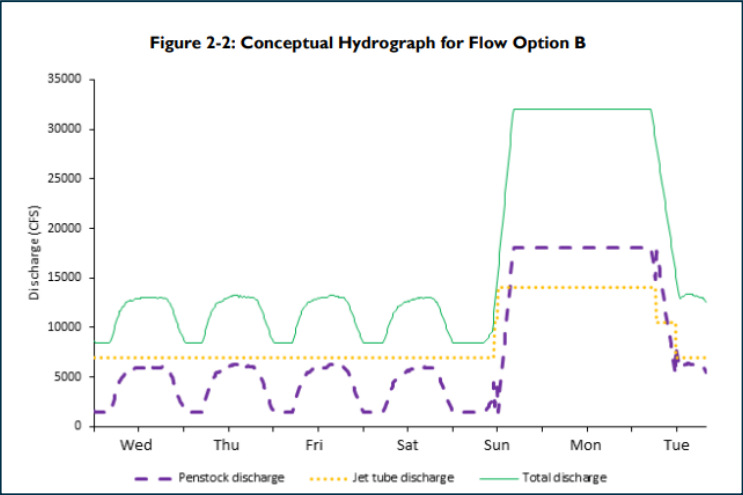
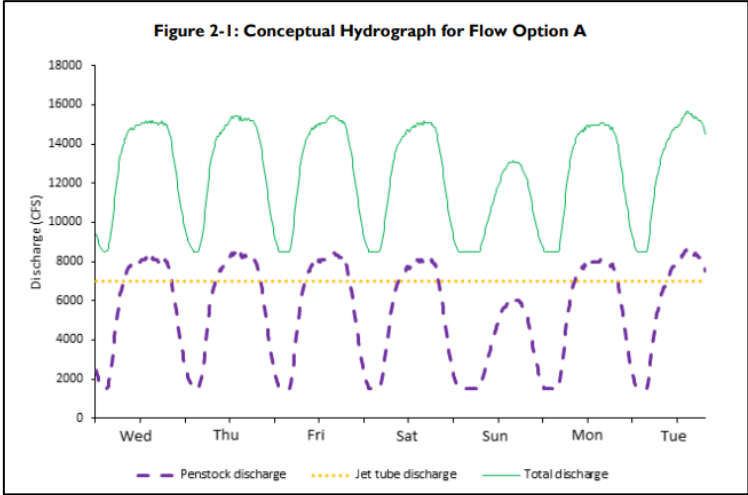
# Preliminary Alternatives

- No Action – Glen Canyon Dam operations will continue as defined in the 2016 LTEMP ROD.
- Four actions analyzed in the Glen Canyon Dam/Smallmouth Bass Flow Options Draft Environmental Assessment (February 2023).
- Hydropower flow option that does not include the use of bypass to reduce water temperatures.
- All action-alternatives will include a revised annual sediment accounting period and implementation window associated with the HFE protocol.



# Preliminary Alternatives

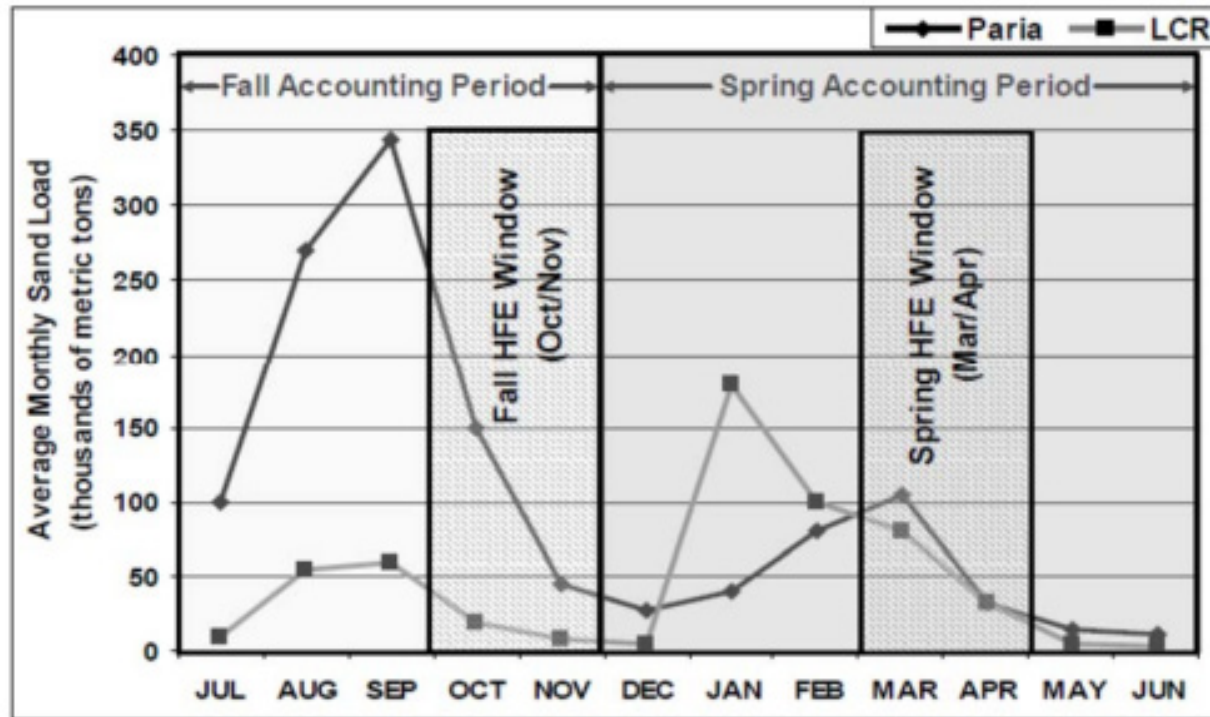
Four actions analyzed in the Glen Canyon Dam/Smallmouth Bass Flow Options Draft Environmental Assessment (February 2023).





# Preliminary Alternatives

- All action-alternatives will include a revised annual sediment accounting period and implementation window associated with the HFE protocol.



**FIGURE 1** Average Monthly Sand Load from the Paria River and Little Colorado River Showing the Fall and Spring HFE Accounting Periods and Implementation Windows



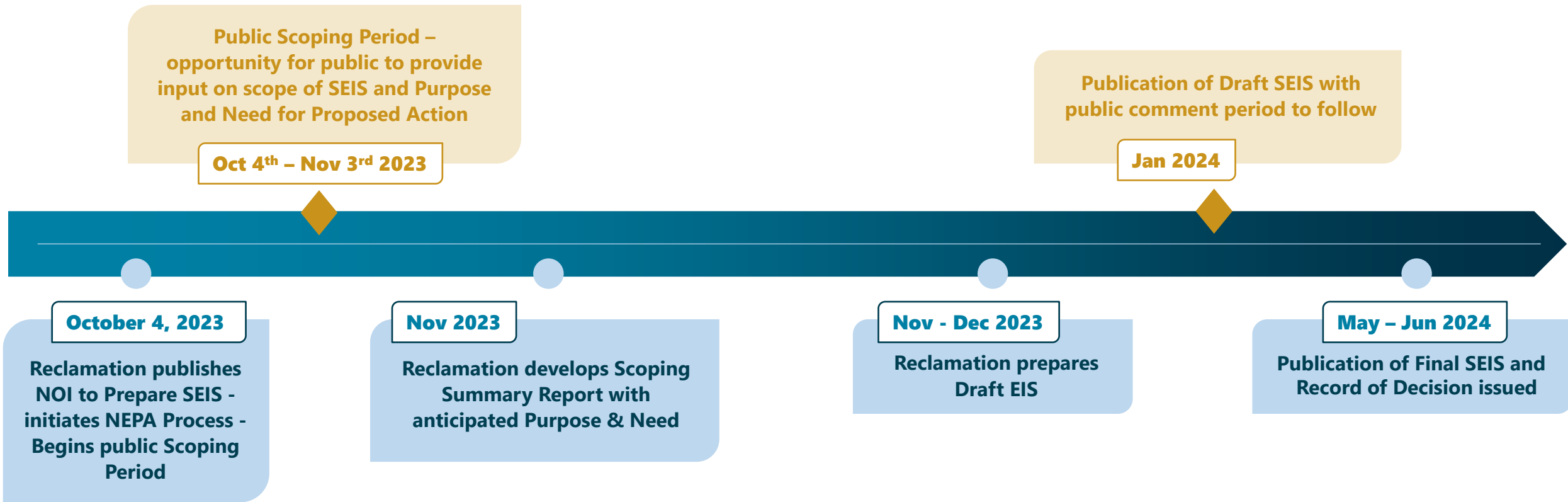
# SEIS Impact Analysis



- Consider potential effects on the resources below Glen Canyon Dam.
  - natural and cultural resources
  - endangered species
  - recreation
  - water resources
  - hydropower resources
  - other resources and uses
- Build upon analyses in LTEMP EIS (2016) and Glen Canyon Dam/Smallmouth Bass Flow Options Draft EA (February 2023).
- Informed by submitted EA public comments, current SEIS public scoping comments, and current hydrologic conditions.



# LTEMP SEIS: Proposed Schedule



◆ Key NEPA Process milestones – Opportunities for Tribal, State, Partner, Stakeholder, and Public engagement







# Scoping Process

- Notice of Intent was published in the *Federal Register* on **October 4, 2023**.
- 30-day public scoping comment period ends **November 3, 2023**.
- Public Webinars are being held on **October 18 and 20, 2023**.
- Invite all Basin partners, stakeholders, and interested members of the public to provide oral and written comments
- Seeking comments concerning the scope of specific operational guidelines, strategies, and any other issues that should be considered in the SEIS.



# How does the LTEMP SEIS differ from other current planning activities?

<b>PLANNING EFFORT</b>	<b>NEAR-TERM COLORADO RIVER OPERATIONS</b> <i>(Interim Guidelines SEIS)</i>	<b>GLEN CANYON DAM LONG-TERM EXPERIMENTAL AND MANAGEMENT PLAN</b> <i>(LTEMP SEIS)</i>	<b>LONG-TERM COLORADO RIVER OPERATIONS</b> <i>(Post-2026 Process)</i>
<b>RANGE OF OPERATIONS</b>	<p>Limited sections of the 2007 Interim Guidelines</p> <p>Focus on annual releases</p>	<p>Limited sections of the 2016 LTEMP ROD;</p> <p>Sub-annual flows - timing of hourly, daily, monthly and experimental releases from Glen Canyon Dam</p>	<p>Revisit all sections of the 2007 Interim Guidelines and other operating agreements that expire in 2026.</p> <p>Focus on annual releases</p>
<b>DURATION</b>	<p>2024 – 2026 (3 YEARS)</p>	<p>2024 – 2027 (Flow Alternatives) 2024 – 2036 (HFE protocol)</p>	<p>2026 AND BEYOND</p>



# Ways to Comment

- During public scoping meetings
- Send an email: **LTEMPSEIS@usbr.gov**
- By mail to:

Bureau of Reclamation  
Attn: LTEMP SEIS Project Manager  
125 South State Street, Suite 800  
Salt Lake City, UT 84138

**30-day comment  
period closes on  
November 3, 2023**





# Need Information?

- Project Website: <https://www.usbr.gov/uc/progact/amp/index.html>
- Send questions to: [LTEMPSEIS@usbr.gov](mailto:LTEMPSEIS@usbr.gov)
- Kathleen Callister, Adaptive Management and Water Quality Division Manager, Bureau of Reclamation: (801) 524–3867





# Public Comment



— BUREAU OF —  
RECLAMATION



# Comment Guidelines

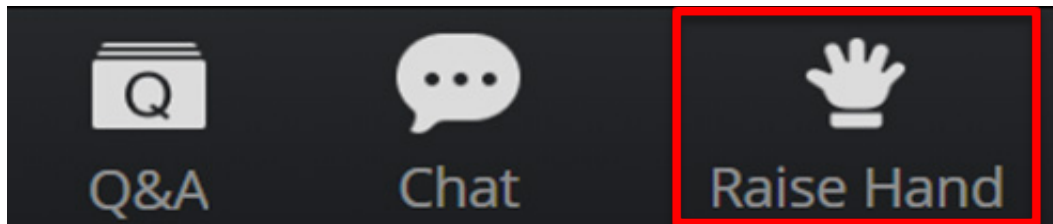
- This time is for Reclamation to receive public comment to consider in the NEPA process; it not a forum for Reclamation to respond to comments.
- Comments should be directed to the Bureau of Reclamation, not to other commenters.
- Comments will be limited to 3 minutes, so we have time to hear from as many commenters as possible. Comments longer than 3 minutes can be submitted in writing.
- This virtual event is designed to be viewed in homes across the country in real time. Profanity is not acceptable.



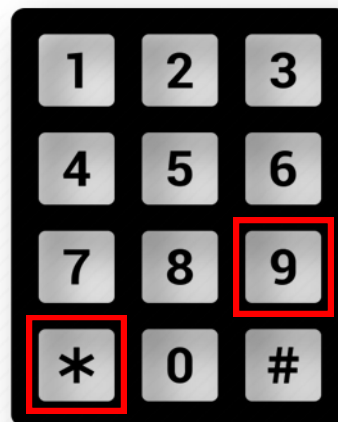


## To Comment

- Click the raise hand button
- Facilitator will call your name
- Click unmute to speak
- Please state and spell your name when you begin
- Please limit comments to 3 minutes. Please submit comments longer than 3 minutes in writing



Telephone



## Comment Timer

03:00



# Closing Remarks



— BUREAU OF —  
RECLAMATION