

Technical Work Group Chair Report

Adaptive Management Work Group Meeting

August 20, 2024

Seth Shanahan

TWG Chairperson

Meetings

- Past
 - October 29-30
 - April 8-10
 - July 9-10
 - August 6
- Future
 - October/November

Items Reported Elsewhere on AMWG Agenda

- TWP and budget
- TWP and budget after action review
- Basin hydrology and operations
- Nonnative fish actions
- Program evaluation/knowledge assessment
- Pikeminnow
- Rainbow trout fishery
- LTEMP experiments
- Metrics

Glen Canyon Dam Adaptive Management Program
Adaptive Management Work Group Meeting, August 20-21, 2025
Little America, Flagstaff AZ

Wednesday, August 20, 2025

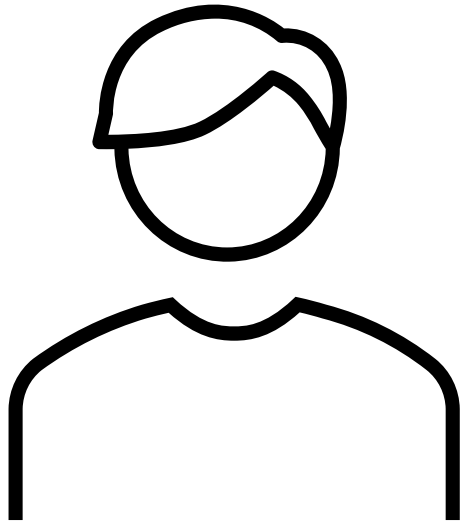
Register Here for Day 1:

<https://events.gcc.teams.microsoft.com/event/9b12f616-e09b-487c-962b-30b3d0d2877f@0693b5ba-4b18-4d7b-9341-f32f400a5494>

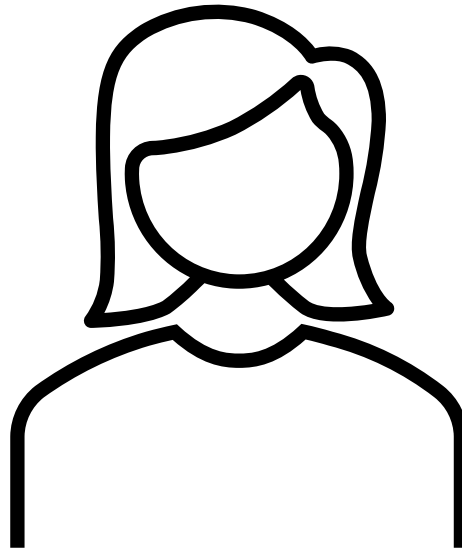
DRAFT AGENDA

START TIME ¹ (Duration)	Wednesday, August 20, 2025 Topic, Presenter, and Purpose ²
9:30 PST (:60)	Welcome and Administrative: Wayne Pullan, Acting Secretary’s Designee to the Adaptive Management Work Group <ul style="list-style-type: none">▪ Opening Remarks (Wayne Pullan)▪ Ground Rules/Introductions and Determination of Quorum (13 members)<ul style="list-style-type: none">○ Facilitator: Becki Bryant▪ Administrative Updates (Bill Stewart)<ul style="list-style-type: none">○ Chapter Updates

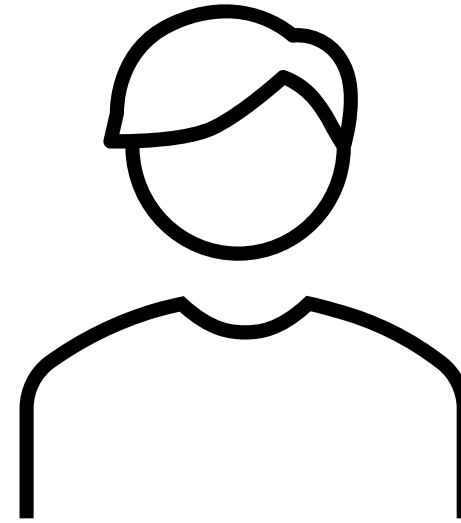
Elections/Appointments



Seth Shanahan,
TWG Chairperson



Michelle Garrison,
TWG Vice-
Chairperson



Jeremy Hammen,
Reclamation
Vice-Chairperson



— BUREAU OF —
RECLAMATION

Long-Term Experimental & Management Plan (LTEMP) Biological Opinion Conservation Measures Update

Technical Work Group Meeting , April 10, 2025

Matt O'Neill, Bureau of Reclamation, Upper Colorado Basin

Conservation Measures as described in the 2016 LTEMP ROD & Biological Opinion

Resource	Conservation Measures
Humpback chub	Translocations Monitoring Non-native fish removal Refuge support Disease & parasite monitoring
Razorback sucker	Monitoring
All native aquatic species	Non-native fish management Evaluate temperature control Evaluate fish passage Alter -12 mile backwater slough
Southwestern willow flycatcher	Monitor every 2 years
Yuma Ridgway's rail	Monitor every 3 years



Where do we go from here?

Possible Action	Status
-12mi Slough modification	In progress
Disrupt bass spawning (short term)	2024 bass flows, planning 2025 actions
Disrupt bass spawning (long term)	Thermal curtain (Value Planning Study completed) Low head power (extremely long term) Post-2026 EIS in progress
Mechanical removals	Multi-agency GRCA and GLCA, in progress
Understanding and preventing entrainment	Hydroacoustic studies in progress
Identify new habitat for chub translocations	FWS, NPS and others in progress
Understand status of western GC humpback chub	Expert being assembled
ESA coverage for other bass flow alts	In progress
Reviewing conservation measures	In progress





Trout ad hoc group

Chair – David Rogowski
~30 members

Trout Ad Hoc Group

Charge: The Trout Ad Hoc Group is charged with reviewing the factors negatively impacting the Lees Ferry rainbow trout fishery and proposing strategies that could be pursued/considered to help achieve the LTEMP rainbow trout fishery goal.

Approach

Issue	Objective	subobjective	Option0	Option1	Option2
Lack of recruitment	Increase YOY, and subadults recruitment	increase abundance of RBT that could spawn (health)	no action	stock larger adult fish for spawning	
		increase <u>yoy</u>	no action	stocking fingerlings	
		increase spawning habitat	no action	remove vegetation, algae?	more spring HFE

COLOR CODES
likely
potentially
neutral
maybe not
not likely

Considerations
Consequences
Trade-offs

T&E River Avifauna



National Park Service
U.S. Department of the Interior
Grand Canyon National Park



Yuma Ridgway's Rail (*Rallus obsoletus yumanensis*)



- Listed as Endangered in 1967
- Very few detected in park, with 3 spotted in Burnt Spring Canyon (RM 260R) in 2001
- Do occur below Pearce Ferry (RM 280)
- Most likely habitat in the canyon to be 275 River Marsh (RM 275R) and Burnt Springs (RM 260R).
- Have not been detected in GRCA during recent surveys (since 2020)
- Prefers Marsh habitat (cattails)



SWFL in GRCA

- Listed as an endangered species in 1995
- Last nest found in GRCA in 2007
- Intermittent detections of SWFLs between 2011-2023
 - Survey gap between 2012 and 2019.
 - Most detections in May = likely migratory birds
- Detections of SWFL in June only below RM260, so 2023 & 2025 surveys focused there.
- Things that may affect use of GRCA:
 - Brown-headed cowbird parasitism
 - Changes in hydrology (e.g. standing water for willows)
 - Changes in habitat – used live tamarisk which has declined since beetle and not been replaced with dense native habitat



Photos: Cardenas Creek (RM 71.6L) habitat before tamarisk beetle in 2010 (upper) and after in 2017 (lower).

Yellow-billed Cuckoo (*Coccyzus americanus*)



- SWFL surveys ever other year – recent WIFL detections
- YRRA surveys every 3 years* – no detections since 2020
- YBCU – detected in 2021

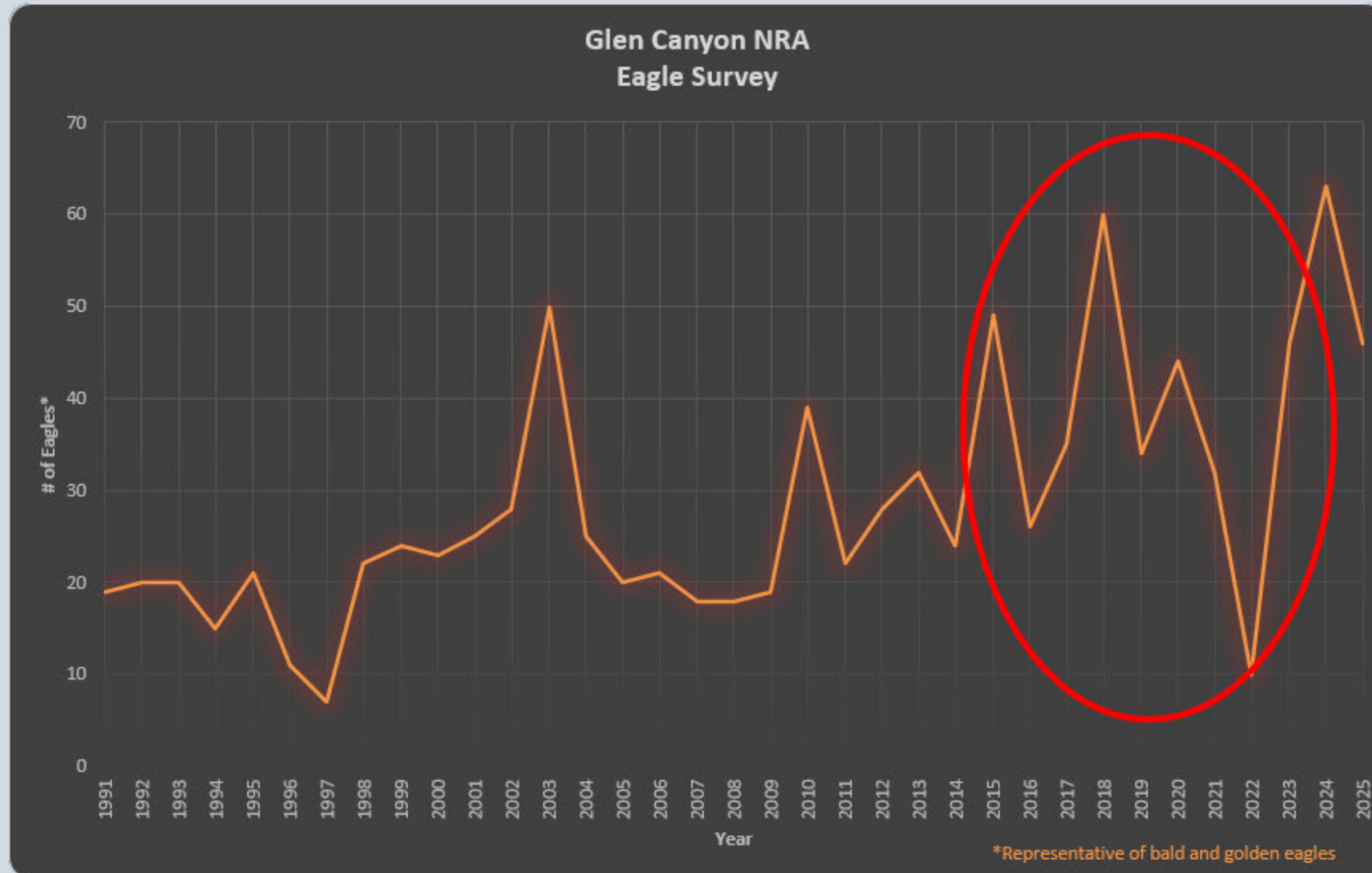
- Listed as Threatened in 2014
- 6 records since 1950 (Gatlin 2011):
 - 1965 at RM -14.2
 - 1971 at RM 87 (Steven W. Carothers)
 - 1990 in the Little Colorado River Gorge (Patrick F. Ryan),
 - 1995 at Lees Ferry (John D. Grahame)
 - 2001 at Burnt Springs Canyon (wildlife staff)
 - 2021 calls at Burnt Springs Canyon (Greg Holm)
- Most likely habitat in the canyon to be Burnt Springs (RM 260R) and 275 River Marsh (RM 275R).
- Likes dense riparian habitat with a cottonwood canopy





Eagle Surveys 1991-2025





Decision Analysis for Support of Management and Research in the Glen Canyon Dam Adaptive Management Program

Brian D. Healy

U.S. Geological Survey, Southwest Biological Science Center,

Grand Canyon Monitoring and Research Center

Technical Working Group Meeting,

July 9-10, 2025



Decision Analysis and the GCDAMP



Non-Native Fish Control below Glen Canyon Dam— Report from a Structured Decision-Making Project

Open-File Report 2011–1012

U.S. Department of the Interior
U.S. Geological Survey



Prepared in cooperation with the Bureau of Reclamation, National Park Service, and Argonne
National Laboratory

Decision Analysis to Support Development of the Glen Canyon Dam Long-Term Experimental and Management Plan

Scientific Investigations Report 2015–5176

U.S. Department of the Interior
U.S. Geological Survey



Prepared in cooperation with the National Park Service, U.S. Fish and Wildlife
Service, Arizona Game and Fish Department, and the Western Area Power
Administration

Brown Trout in the Lees Ferry Reach of the Colorado River—Evaluation of Causal Hypotheses and Potential Interventions

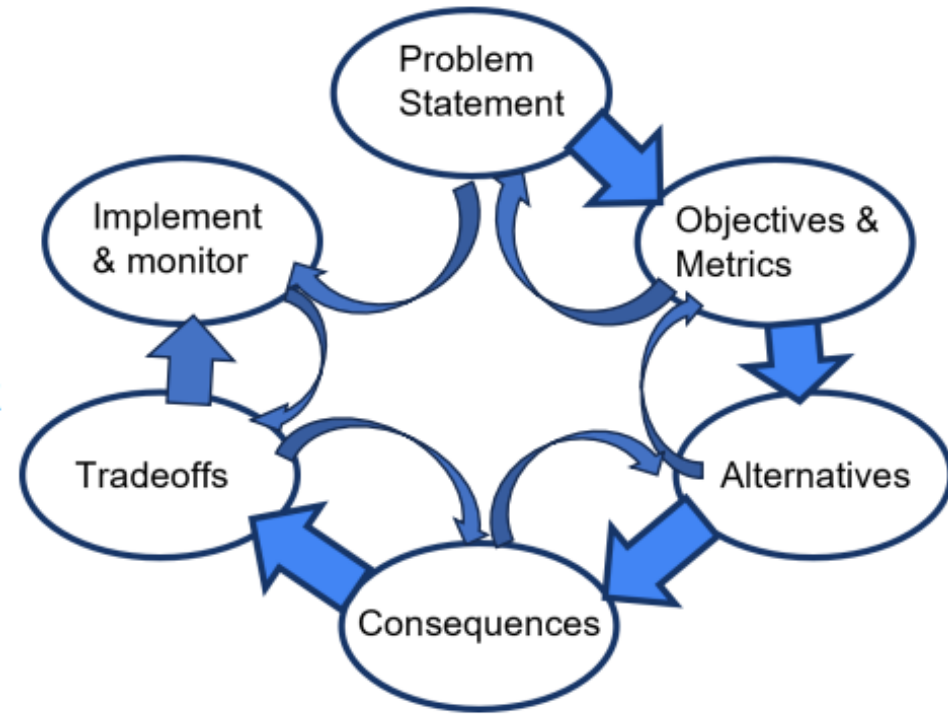


Open-File Report 2018–1069

U.S. Department of the Interior
U.S. Geological Survey

Applications for Decision Analysis?

- Planning and Implementation (P&I) Team
 - (Pr, O, A) Making recommendation on flows while considering multiple objectives
 - Multi-criteria decision analysis
 - (C) Predict consequences (quantitatively)
 - Predictive models or formal expert elicitation
 - Incorporate uncertainty directly into analysis
 - (T) Ranking of alternatives based on values and/or risk
- Benefits
 - Identify/prioritize uncertainties for future research & monitoring (value of information)
 - Communication to other stakeholders and tribes
 - Helpful for recurrent and dynamic decisions
 - Enhance learning about critical uncertainties
 - Analysis could be completed over a short period
 - Rapid prototyping approach and iteration





U.S. Fish And Wildlife Service

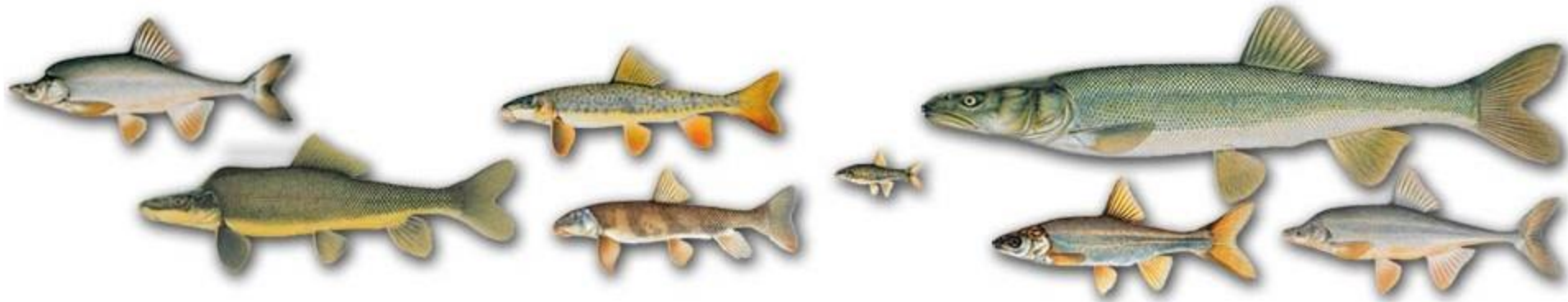
Southwest Region

ESA Fish Species Recovery Planning & Implementation Updates

Colorado River Edition

July 2025





Humpback Chub — Downlisted to Threatened **October 2021**

- **Species Status Assessment** = 2018
Update Anticipated **December 2025**
- **Recovery Plan** = 1990
Update Anticipated **2025/2026**
- **Recovery Implementation Strategy**
Update Anticipated **2025/2026**
- **Five-Year Review** = October 2021
Update Anticipated **2026**

Humpback
Chub

Upper Colorado River



Endangered Fish
Recovery Program



U.S. FISH and
WILDLIFE SERVICE
Southwest Region



HYDROPOWER WORKSHOP PLANNING ASSESSMENT FINDINGS

Seth Cohen and Ben Zukowski

Morris K. Udall and Stewart L. Udall Foundation's

John S. McCain III National Center for Environmental Conflict Resolution

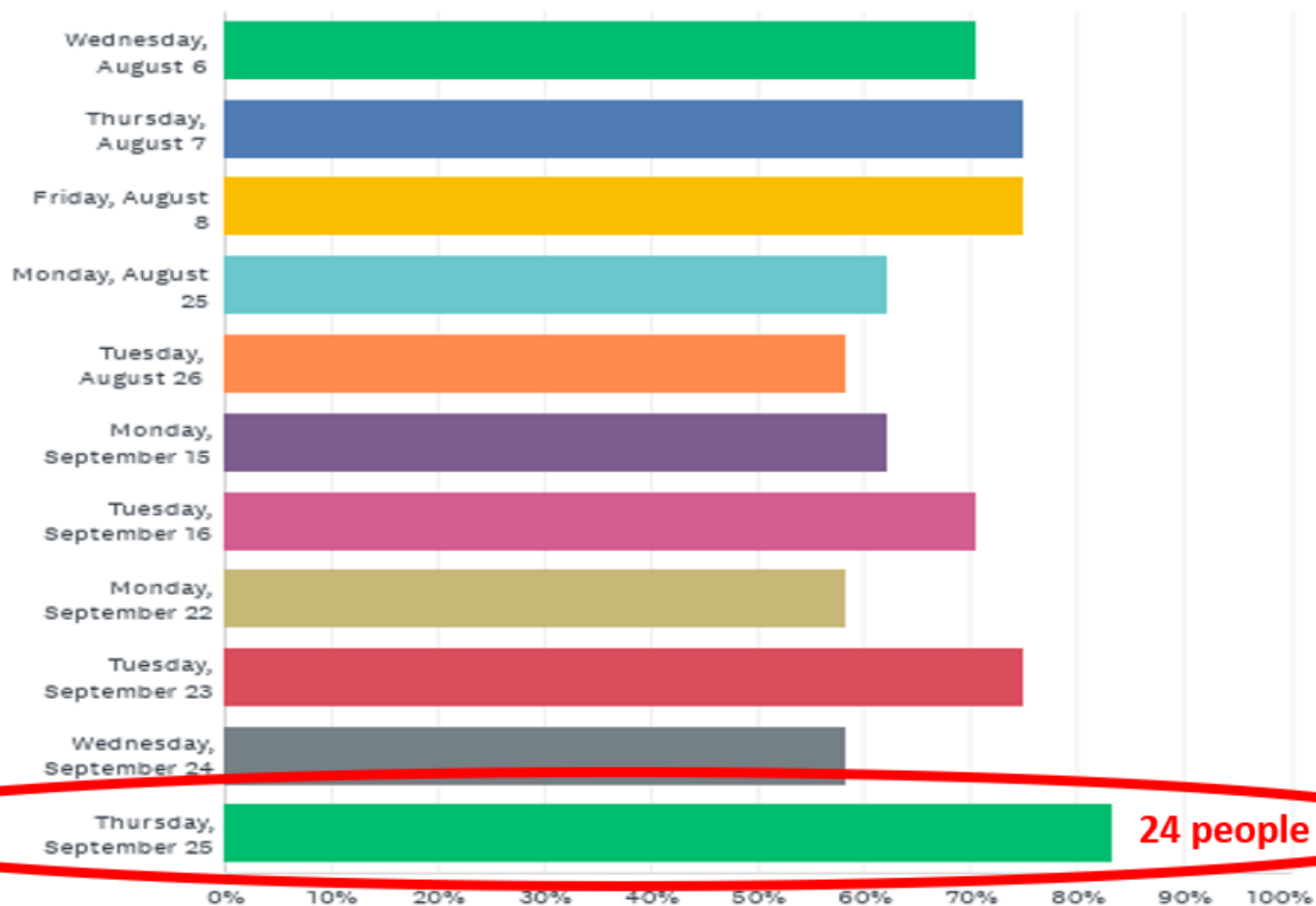
USBR OBJECTIVES AND DESIRED OUTCOMES:

SUBTITLE

- ❖ Provide baseline information on Hydropower to create shared understanding of the resource.
- ❖ Visit the hydropower assumptions that went into the 2016 LTEMP EIS.
- ❖ Discuss proposed performance metric for monitoring metrics document.
- ❖ Identify opportunities to improve upon Glen Canyon Dam (GCD) flow parameters (ex. daily fluctuations, ramp rates, and monthly patterns), identified in LTEMP consistent with improvement and long-term sustainability of downstream resources.
- ❖ Identify potential experimental hydrographs at GCD to maintain or increase electric energy generation, load following capability, and ramp rate capability, and minimize emissions and costs to the greatest extent practicable, consistent with improvement and long-term sustainability of downstream resources.'

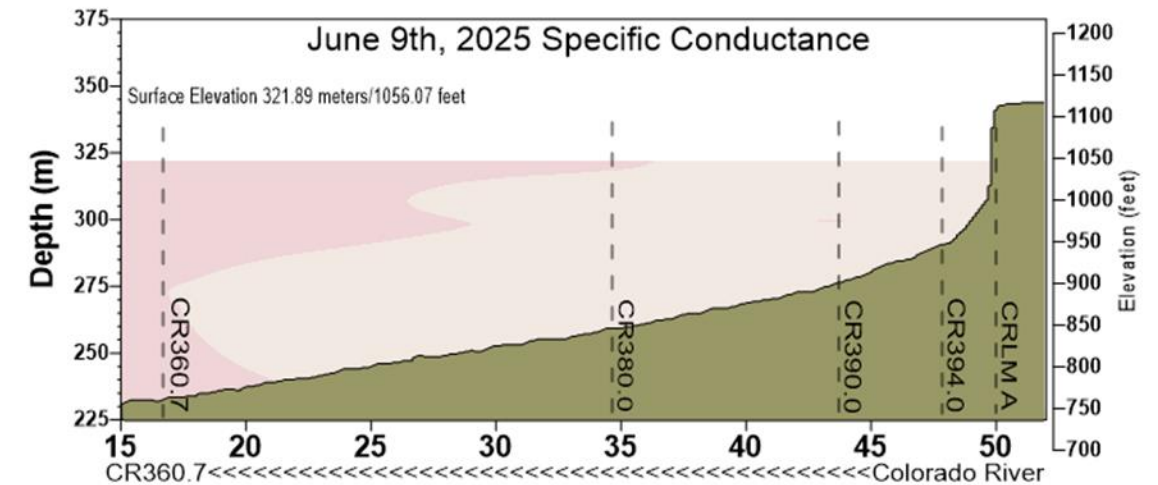
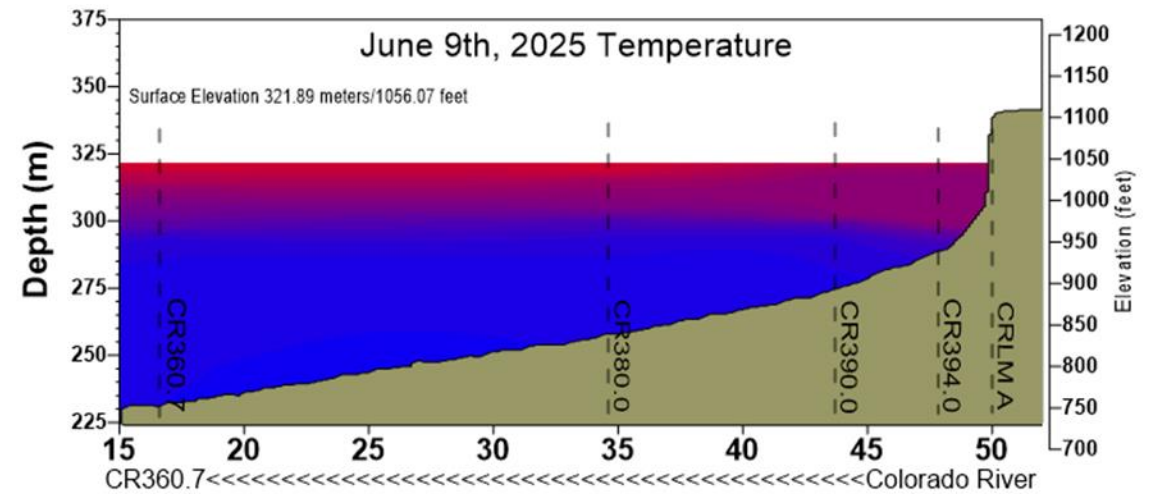
SCHEDULING CONSIDERATIONS

SUBTITLE



Lake Mead Water Quality Update

An aerial photograph of a river system, likely the Amazon, showing a large, winding river channel. A red rectangular box highlights a specific area in the lower right portion of the image, which corresponds to the location of the study site mentioned in the text.



Overarching Reflections

- Interest in using Science Advisors and independent reviews
- Continue towards integrated reporting and assessments
- Fast-track invasive fish species Strategic Plan long-term actions
- Planning document updates still needed
- Balancing effort (and cost allocations) among work plan elements that support all the goals is important but difficult

Overarching Reflections

- Interest in decision science tools to help with tradeoffs
- Concern with personnel losses and other cost-cutting impacts
- Consensus takes time and can be frustrating
- Risk tolerances differ among members

Future TWG Agenda Items

- TAHG recommendations
- BAHG after action review recommendations
- 10-year review and annual evaluations/knowledge assessments
- Impacts from Dragon Bravo fire