



— BUREAU OF —
RECLAMATION

LTEMP Experiments Update

AMWG Meeting February 25, 2026

LTEMP Experiments

“The overall approach attempts to strike a balance between identifying specific experiments and providing flexibility to implement those experiments when resource conditions are appropriate.”

“...rather than proposing a prescriptive approach to experimentation, an adaptive management-based approach that is responsive and flexible will be used to adapt to changing environmental and resource conditions...”

--2016 LTEMP ROD, p. B-9



Potential LTEMP Flow Experiments

- Sediment (High Flow Experiments)
 - Spring HFE
 - Proactive spring HFE
 - Fall HFE
 - Fall HFE extended duration (up to 250 hr)
- Aquatic Resources
 - Macroinvertebrate Flow
 - Trout Management Flows
 - Low summer flows (2nd ten years of LTEMP)
- LTEMP SEIS
 - Smallmouth Bass Flows
 - HFE protocol revision



LTEMP Process for Experiments

- Annual Reporting and TWG meetings
- Notification and Consultation to Tribes & PA Parties
- Implementation / Planning Team Recommendation
- DOI decision

1.4 COMMUNICATION AND CONSULTATION PROCESS FOR ALTERNATIVE D

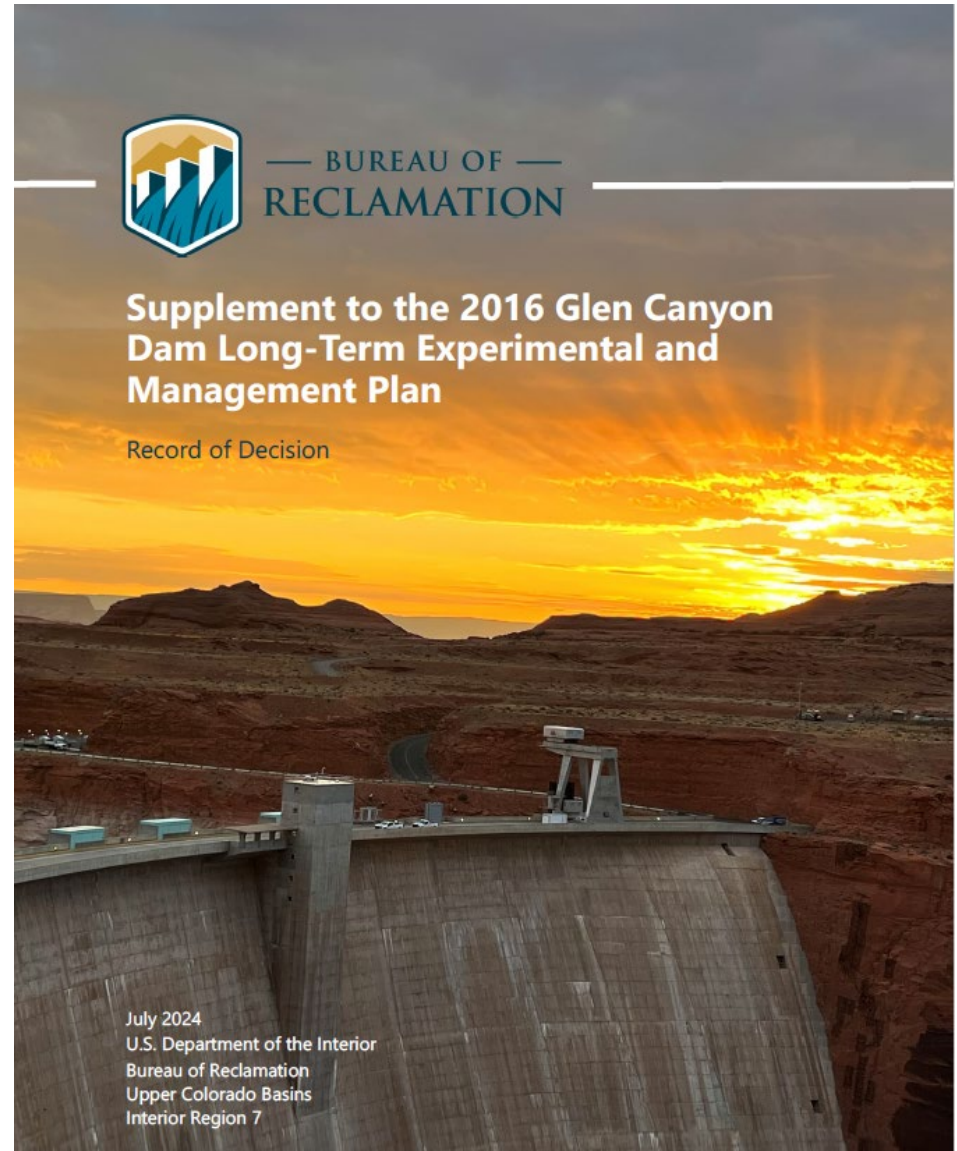
To determine whether conditions are suitable for implementing or discontinuing experimental treatments or management actions, the DOI will schedule implementation/planning meetings or calls with the DOI bureaus (USGS, NPS, FWS, BIA, and Reclamation), WAPA, AZGFD, and one liaison from each Basin State and from the UCRC, as needed or requested by the participants. The implementation/planning group will strive to develop a consensus recommendation to bring forth to the DOI regarding resource issues as detailed at the beginning of this section, as well as including WAPA's assessment of the status of the Basin Fund. The Secretary of the Interior will consider the consensus recommendations of the implementation/planning group, but retains sole discretion to decide how best to accomplish operations and experiments in any given year pursuant to the ROD and other binding obligations.



LTEMP SEIS (2024)

Record of Decision

- Operational Flows (2024-2027)
 - Cool Mix (w/flow spike), Cold Shock (w/flow spike), Non-bypass
 - Cool mix is the preferred alternative for 2024
 - Cool Mix Alternative and the other alternatives possible in 2025-2027 (if needed).
- New HFE Protocol



LTEMP Experiments Since 2016

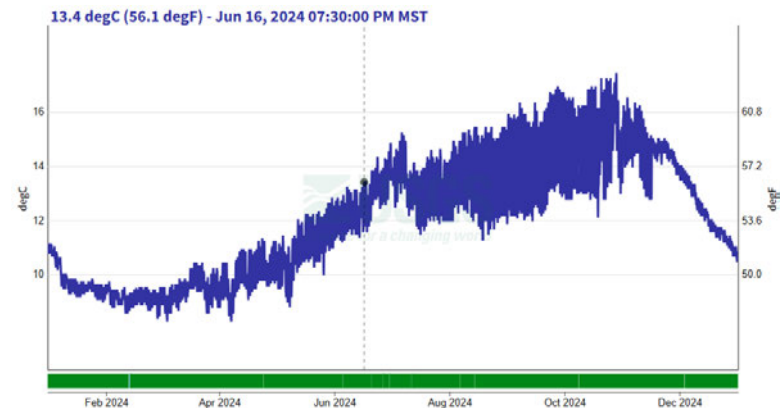
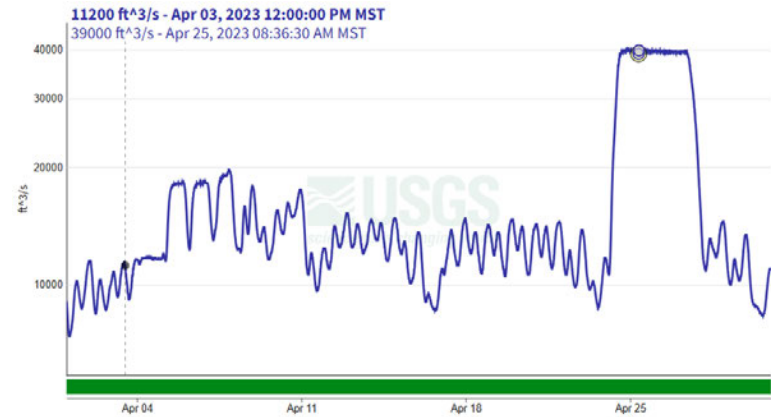
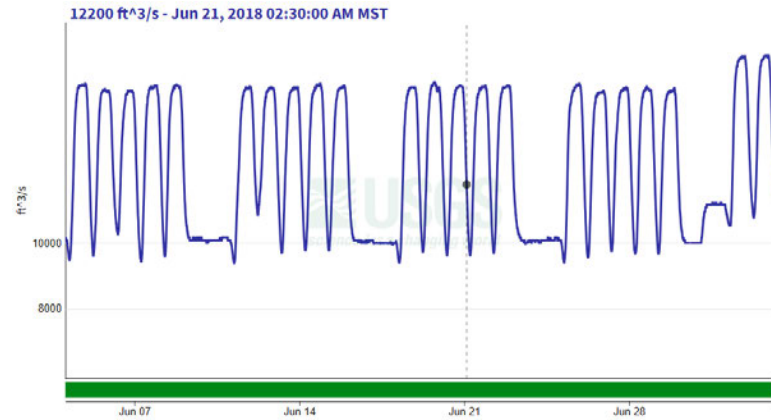
- Macroinvertebrate flows
 - 2018, 2019, 2020, 2022

- HFE

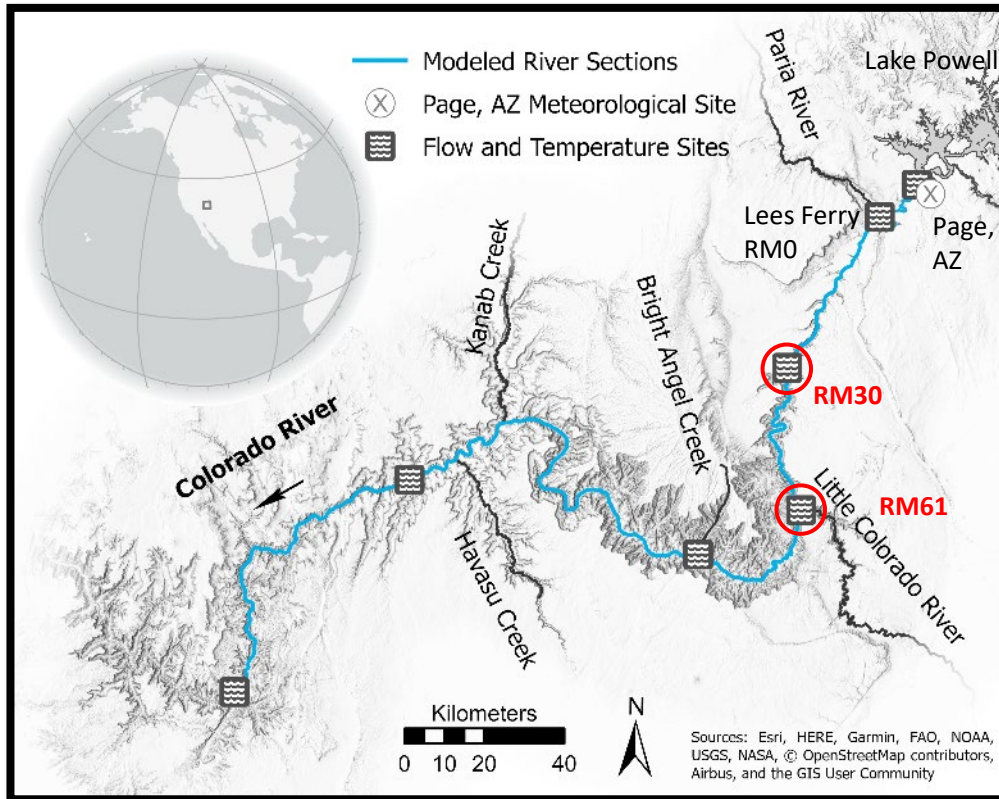
- 2016, 2018, 2023
- Sediment Trigger met but no HFE 2021, 2022, 2024, 2025

- Smallmouth bass flows

- 2024 and 2025



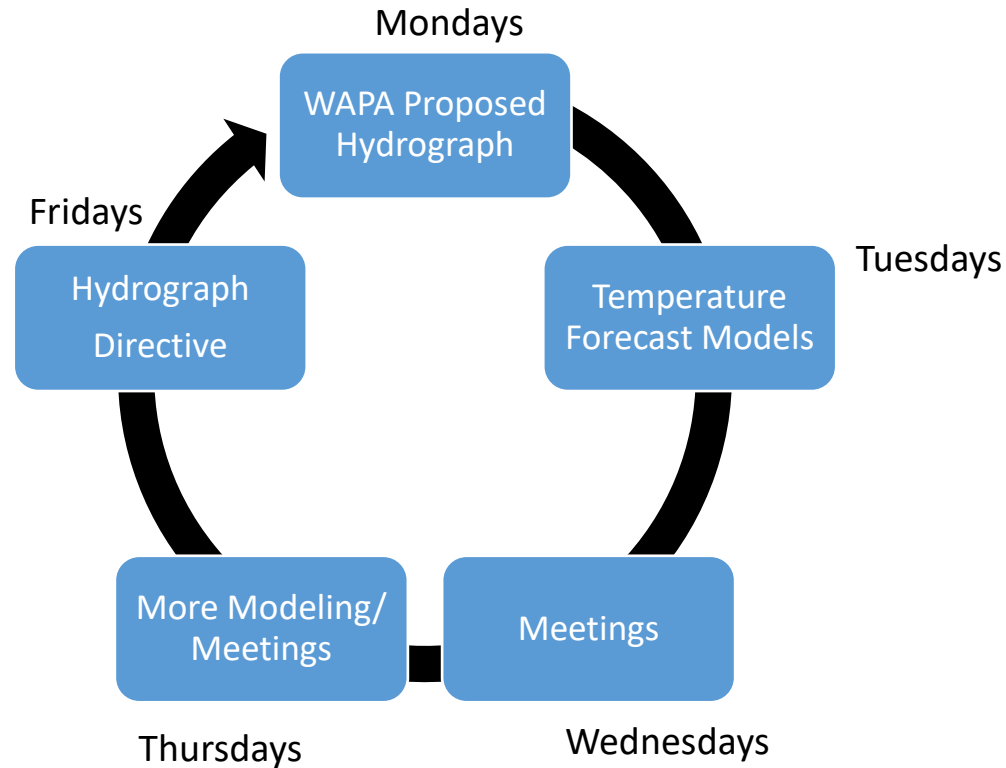
Smallmouth Bass Flows



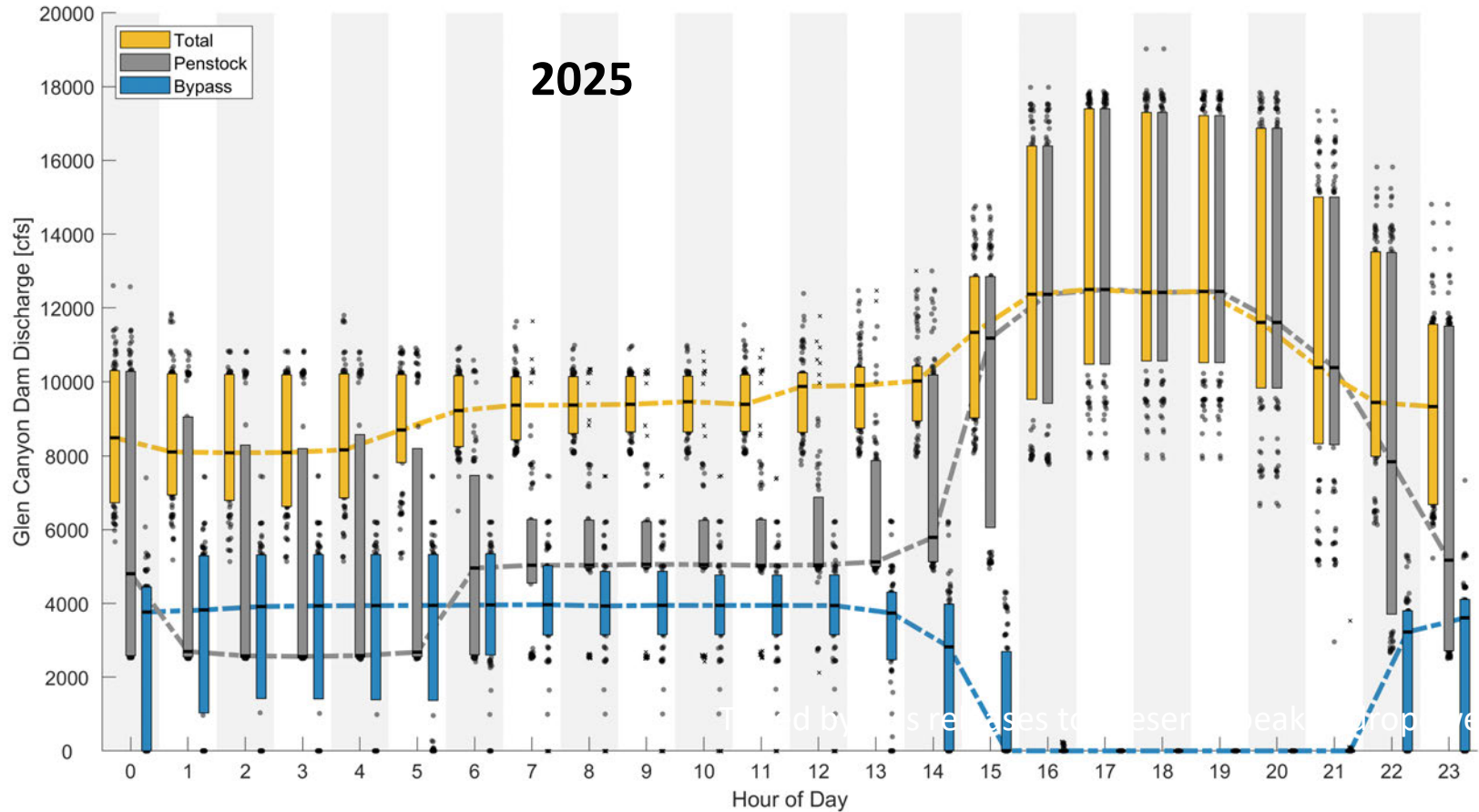
	2024	2025
Target Temperature	≤ 15.5 °C	≤ 15.5 °C
Target River Mile	RM61 (76 miles)	RM30 (45 miles)
On-Ramp	July 9	Aug 3
Off-Ramp	Nov 18	Oct 20 th



Cool-mix Flow Implementation:



Coordination for Peak Hydropower



Preliminary Information-Subject to Revision. Not for Citation or Distribution.



Resource Impacts

- Charles Yackulic (Fish and Temperature)
- Jerry Wilhite (Hydropower)



Moving Forward

- PI Team meet weekly starting Feb 19th
- Feb/March – Notification to tribes
- High Flow Experiment
 - Trigger for spring HFE has been met
 - Final HFE mass balance model run
- Smallmouth Bass Flows
 - Screening Tool
 - Type
 - Location
 - Timing
- For Both Experiments
 - Early April – Draft tech report
 - April TWG update– April 7-9th
 - Mid April – PI Tech Team Recommendation
 - End of April – PI Leadership Team Recommendation
 - May AMWG Update
 - June – Possible implementation



Questions?

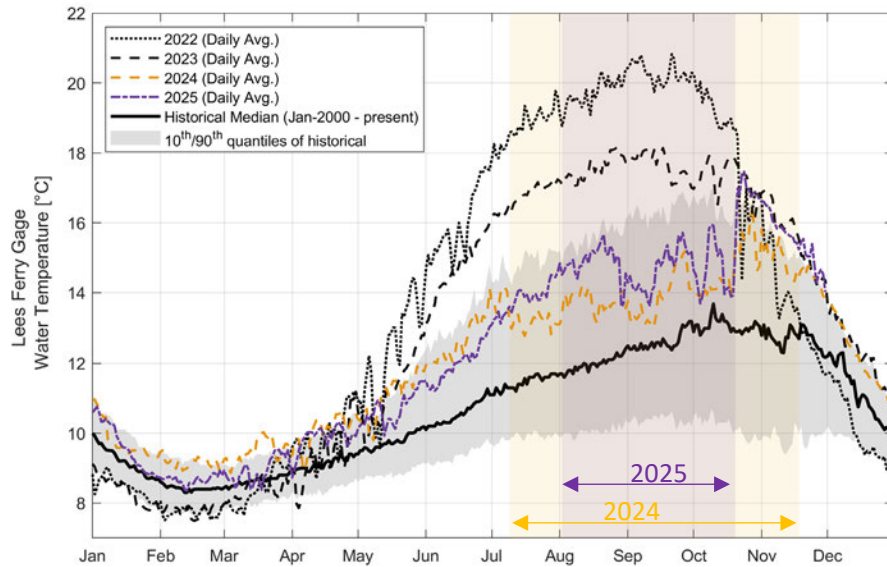


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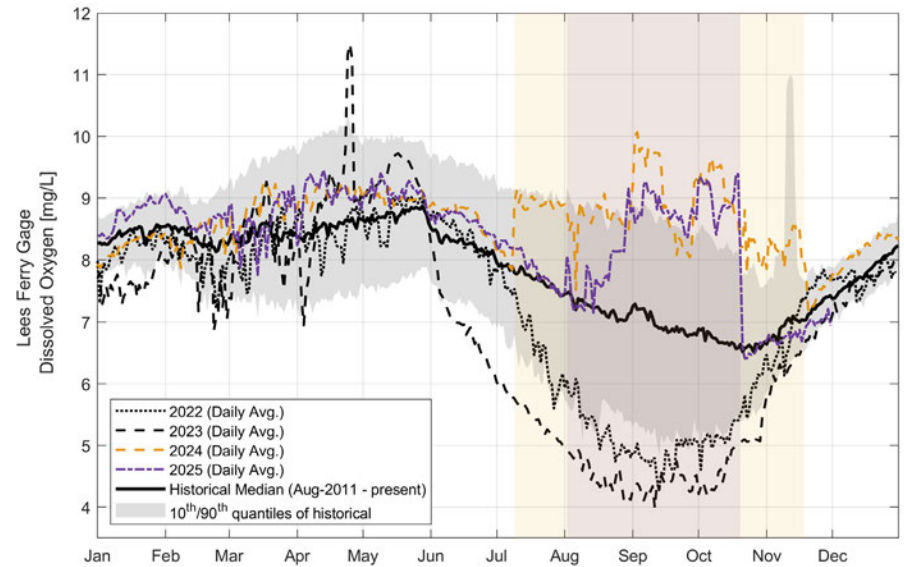
Extra Slides



Effects on Water Quality



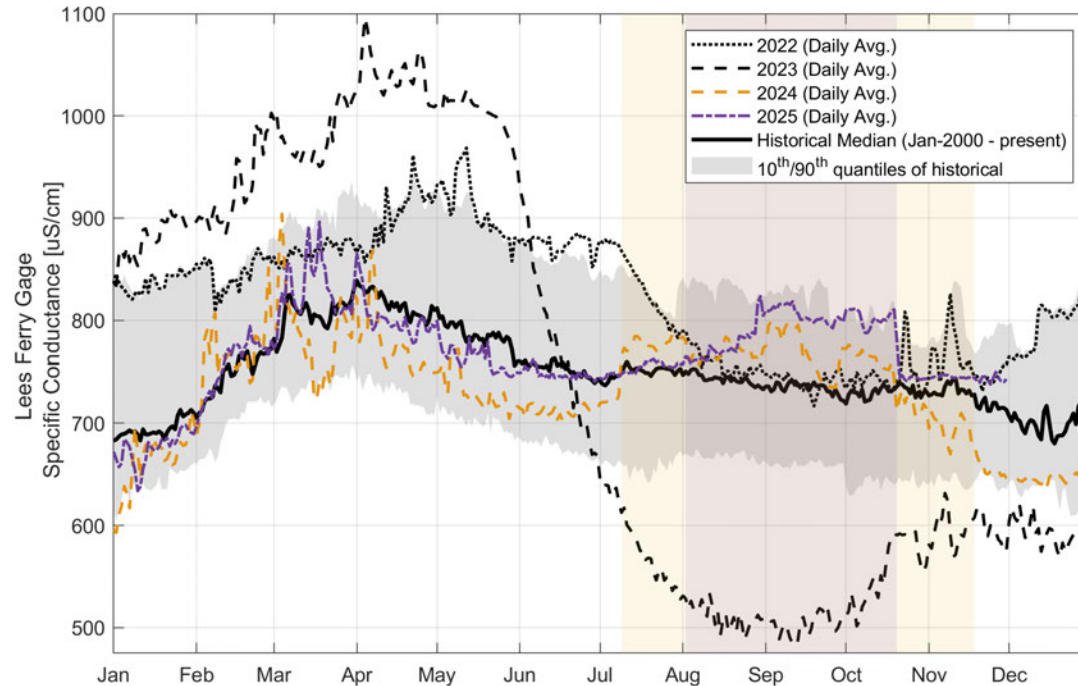
Temperature



Dissolved Oxygen



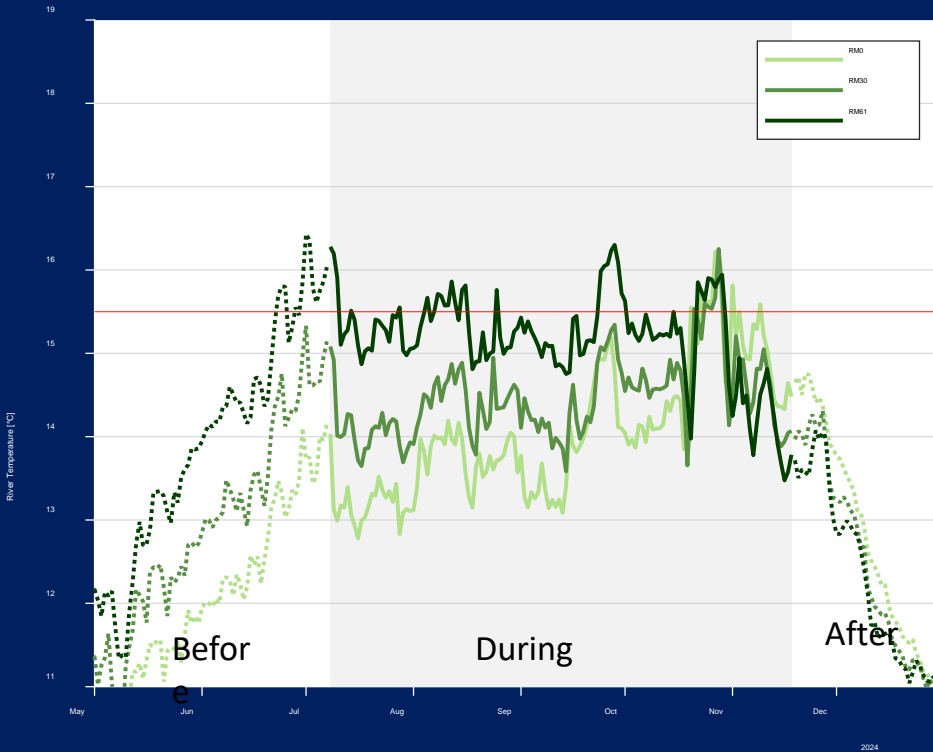
Effects on Specific Conductance



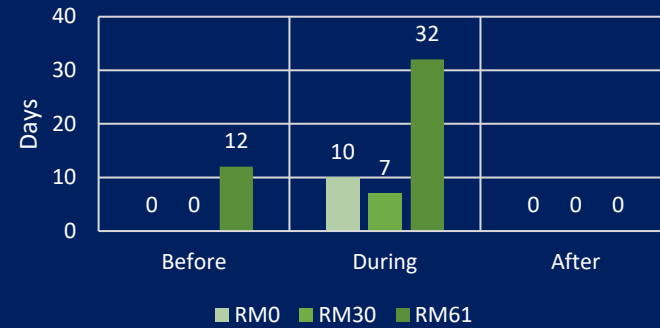
Specific Conductance



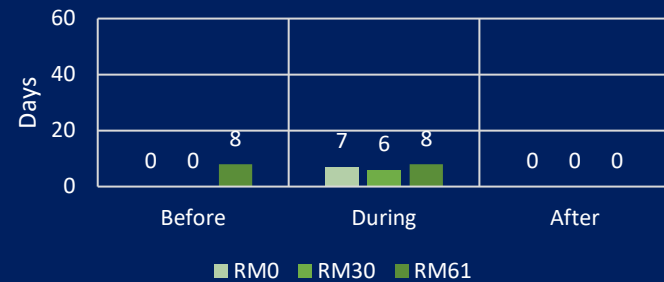
Summary (2024)



Duration over 15.5 C Threshold



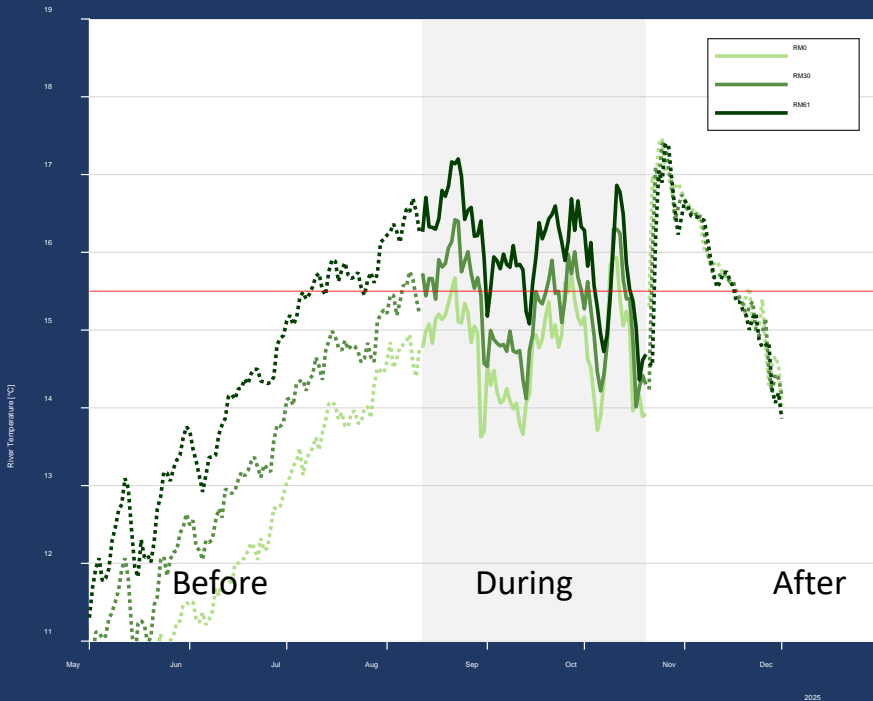
Max Consecutive Days over 15.5 C Threshold



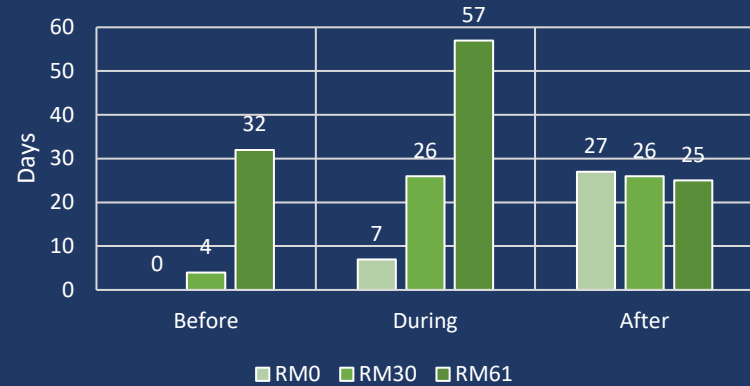
Preliminary Information-Subject to Revision. Not for Citation or Distribution.



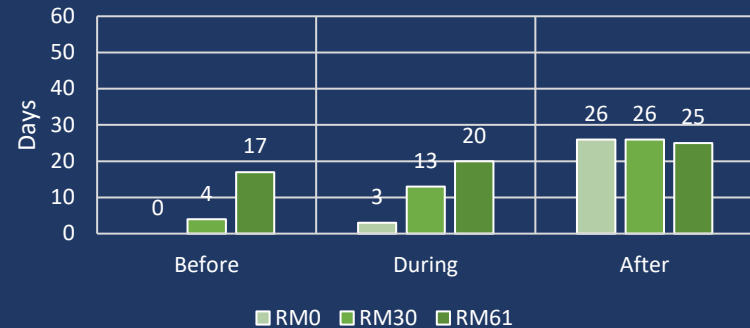
Summary (2025)



Duration over 15.5 C Threshold



Max Consecutive Days over 15.5 C Threshold



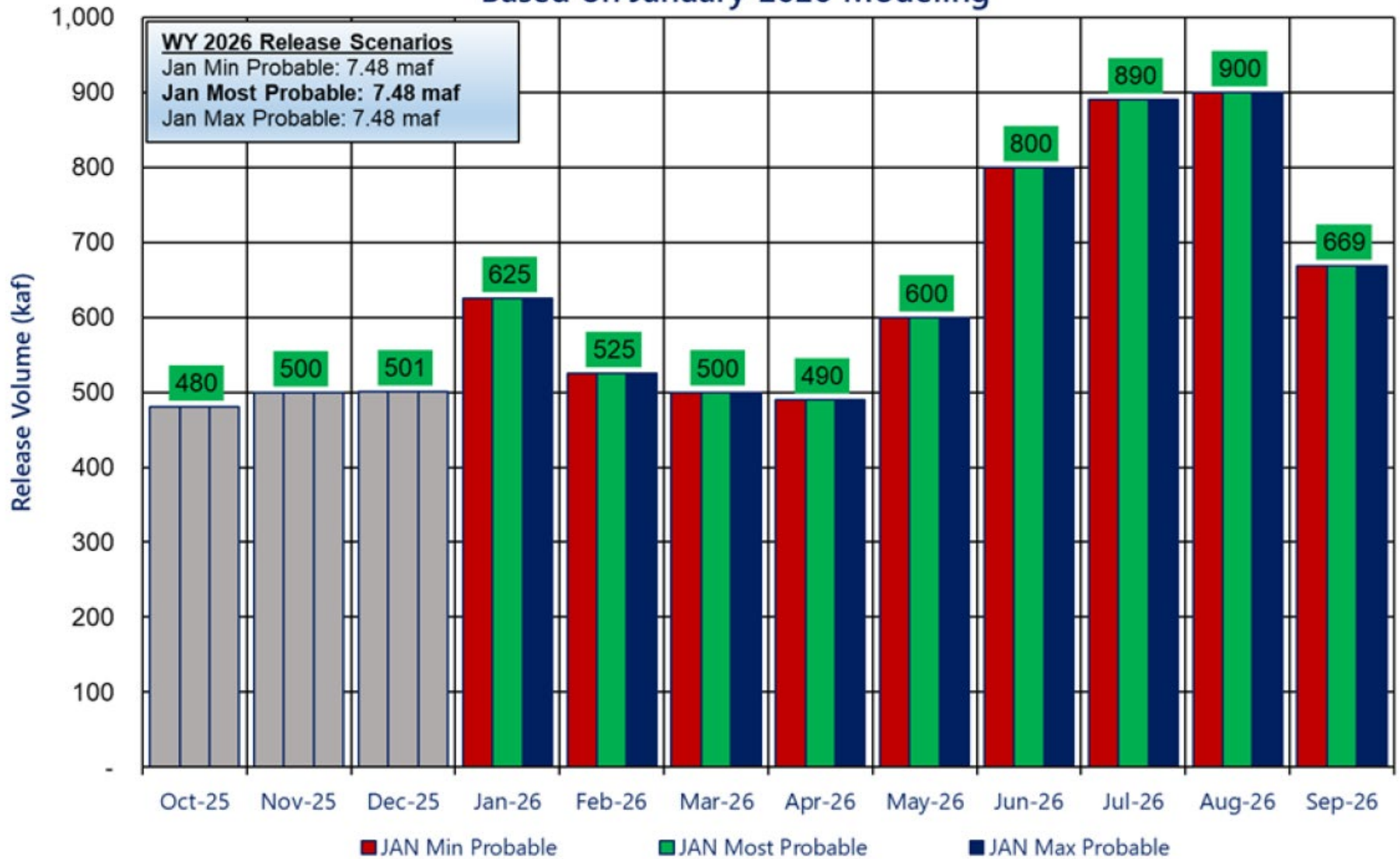
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Potential Lake Powell Monthly Release Volume Distribution

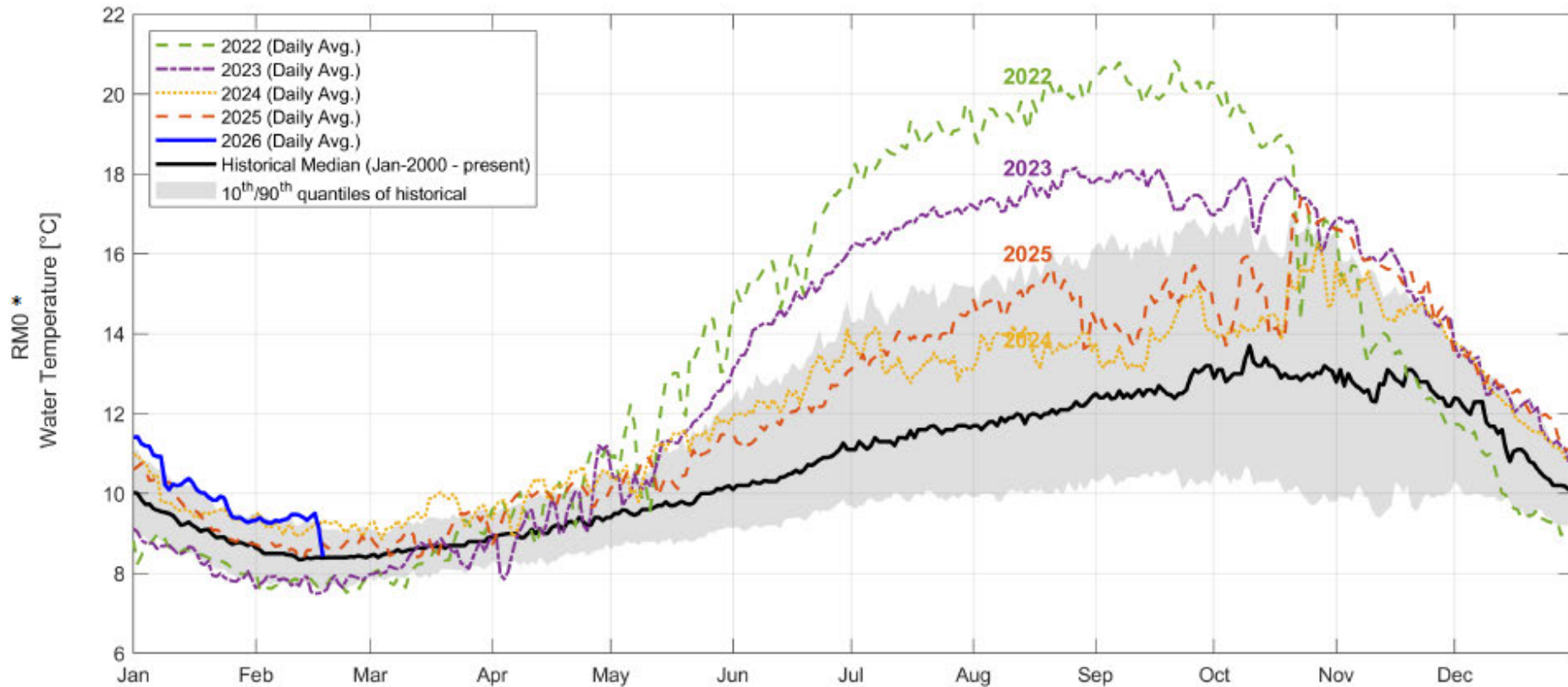
Release Scenarios for Water Year 2026

Based on January 2026 Modeling



Flow Option - River Mile - Off Ramp Date	Sum	Mean (Millions)	Median (Millions)	90th percentile (Millions)	Max (Millions)	# Responses
Cool Mix - RM 30 - October 1st	66	\$ 1.96	\$ 1.61	\$ 4.15	\$ 10.70	7
Cool Mix - RM 30 - October 20th	55	\$ 2.83	\$ 2.48	\$ 5.41	\$ 12.64	6
Cool Mix - RM 60 - October 20th	28	\$ 6.03	\$ 5.95	\$ 9.58	\$ 19.04	3
Cool Mix - RM 60 - October 1st	25	\$ 4.95	\$ 4.82	\$ 8.11	\$ 17.01	3
Cool Mix - RM 60 -Temperature Driven	20	\$ 6.26	\$ 6.17	\$ 10.02	\$ 20.41	2
Cool Mix - RM 15 - October 1st	18	\$ 1.15	\$ 0.87	\$ 2.70	\$ 8.52	2
Cool Mix - RM 15 -Temperature Driven	16	\$ 2.05	\$ 1.73	\$ 4.22	\$ 11.68	2
Cool Mix - RM 30 -Temperature Driven	16	\$ 3.03	\$ 2.65	\$ 5.84	\$ 13.95	2
No SMB Flow - No Action	10	\$ -	\$ -	\$ -	\$ -	1
Cool Mix - RM 0 - October 1st	10	\$ 0.68	\$ 0.32	\$ 1.87	\$ 6.42	1
Cool Mix - RM 15 - October 20th	10	\$ 1.88	\$ 1.61	\$ 3.84	\$ 10.39	1
Cool Mix - RM 30 - September 15th	9	\$ 1.14	\$ 0.82	\$ 2.82	\$ 8.29	1
Non bypass - RM 60 -Temperature Driven	9	\$ 0.93	\$ 0.88	\$ 1.53	\$ 3.44	1
Cool Mix - RM 15 - September 15th	8	\$ 0.59	\$ 0.35	\$ 1.52	\$ 6.29	1
Non bypass - RM 0 -Temperature Driven	8	\$ 0.34	\$ 0.27	\$ 0.77	\$ 2.25	1
Non bypass - RM 30 - October 20th	8	\$ 0.52	\$ 0.47	\$ 0.90	\$ 2.14	1
Cool Mix - RM 0 -Temperature Driven	0	\$ 1.41	\$ 1.01	\$ 3.27	\$ 9.49	0
Cool Mix - RM 0 - October 20th	0	\$ 1.27	\$ 0.95	\$ 2.90	\$ 8.22	0
Cool Mix - RM 0 - September 15th	0	\$ 0.29	\$ -	\$ 0.93	\$ 4.15	0
Cool Mix - RM 60 - September 15th	0	\$ 3.74	\$ 3.57	\$ 6.31	\$ 14.52	0
Non bypass - RM 0 - October 20th	0	\$ 0.30	\$ 0.25	\$ 0.65	\$ 1.95	0
Non bypass - RM 0 - October 1st	0	\$ 0.18	\$ 0.11	\$ 0.46	\$ 1.77	0
Non bypass - RM 0 - September 15th	0	\$ 0.07	\$ -	\$ 0.22	\$ 1.72	0
Non bypass - RM 15 -Temperature Driven	0	\$ 0.45	\$ 0.40	\$ 0.89	\$ 2.31	0
Non bypass - RM 15 - October 20th	0	\$ 0.40	\$ 0.36	\$ 0.78	\$ 2.02	0
Non bypass - RM 15 - October 1st	0	\$ 0.27	\$ 0.22	\$ 0.59	\$ 1.83	0
Non bypass - RM 15 - September 15th	0	\$ 0.13	\$ 0.08	\$ 0.38	\$ 1.80	0
Non bypass - RM 30 -Temperature Driven	0	\$ 0.59	\$ 0.53	\$ 1.02	\$ 2.41	0
Non bypass - RM 30 - October 1st	0	\$ 0.38	\$ 0.32	\$ 0.72	\$ 1.91	0
Non bypass - RM 30 - September 15th	0	\$ 0.22	\$ 0.15	\$ 0.52	\$ 1.81	0
Non bypass - RM 60 - October 20th	0	\$ 0.86	\$ 0.82	\$ 1.41	\$ 3.24	0
Non bypass - RM 60 - October 1st	0	\$ 0.72	\$ 0.66	\$ 1.24	\$ 3.16	0
Non bypass - RM 60 - September 15th	0	\$ 0.56	\$ 0.50	\$ 1.05	\$ 3.13	0

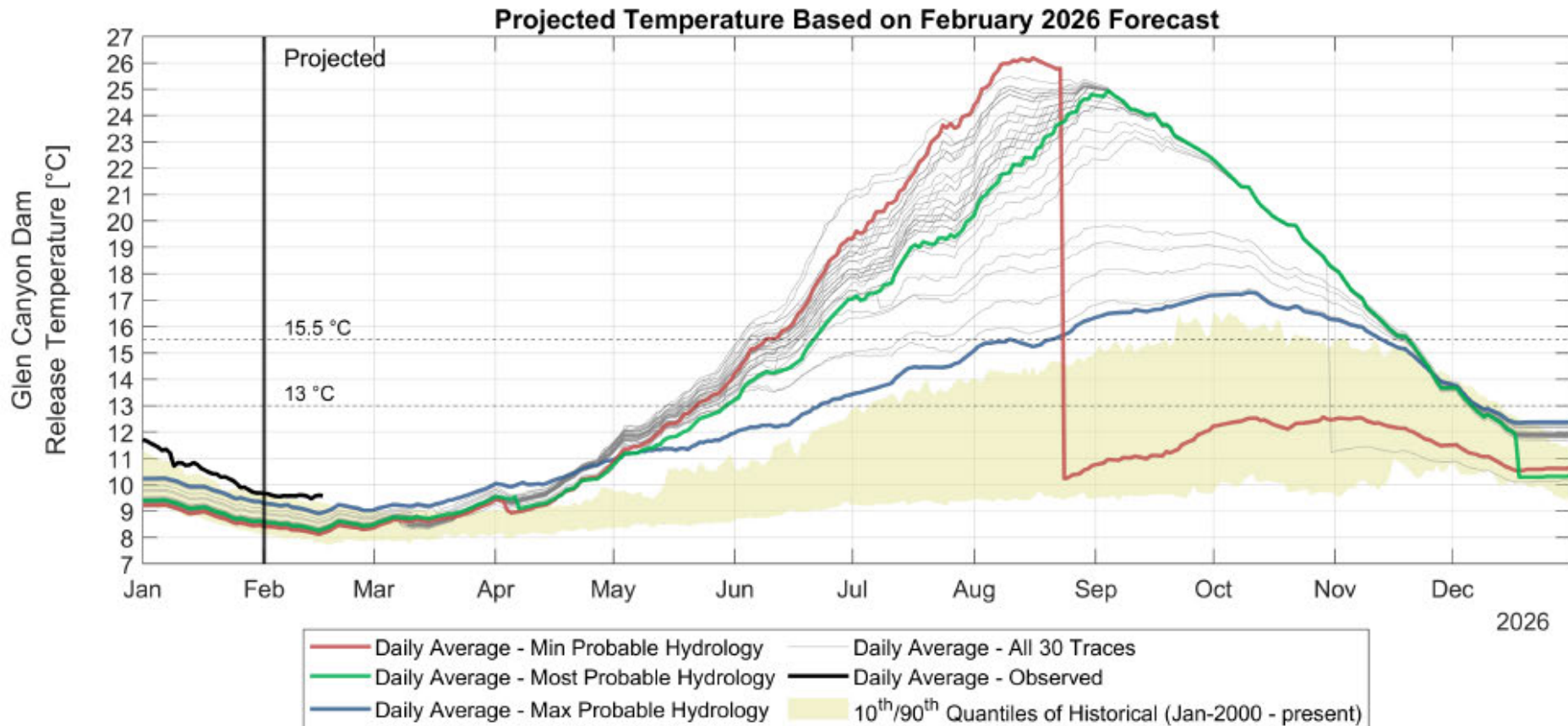
Lees Ferry - Temperature



* Credit to USGS for data. Preliminary, not for citation.



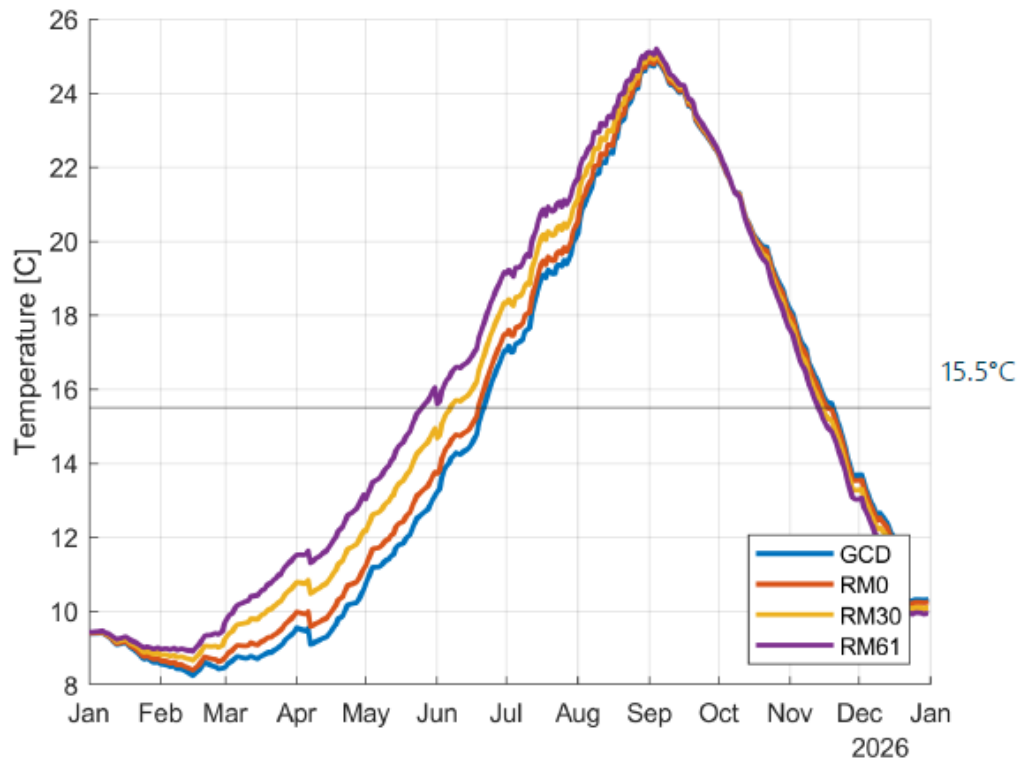
Glen Canyon Dam Release Temperature (*Eppehimer et al, 2024 model)



* <https://doi.org/10.1101/2024.01.23.576966>



Combined Temperature Predictions February 2026 Most Probable Hydrology



(*Dibble et al, 2020 model)

[*https://doi.org/10.1002/eap.2279](https://doi.org/10.1002/eap.2279)

