Expert Panel Overview:
On October 29, Reclamation asked representatives of five agencies (Arizona Game and Fish Department (AGFD), Fish and Wildlife Service (FWS), Grand Canyon Monitoring and Research Center (GCMRC), National Park Service (NPS), and Western Area Power Authority (WAPA)) to answer the six questions listed below. We requested responses within about 48 hours so that the Planning and Implementation (PI) team would receive information to review with time to make a recommendation that can influence flow decisions as early as Nov 9.

Each panel member was allowed flexibility to formulate an answer within their agency. AGFD, FWS, and NPS consulted with members within their agency to produce ratings and written results. WAPA produced a detailed estimate of growth rates based primarily on Shuter et al. 1980 to help determine ratings and responses. Finally, GCMRC incorporated comments from five anonymous biologists into a modified Delphi expert elicitation approach in which members produced initial ranks, discussed these ranks as a group, and then modified scores and comments after the discussion.

We are grateful to our panel members for their rapid and thoughtful responses. These responses are summarized below, and we will distribute the raw responses with this summary.

Questions the panel received:
Smallmouth bass biological recommendation
Please review the following questions and provide responses to Matt by Thursday 12pm AZ time. The focus is the biological and environmental conditions. Please rate questions 1 and 2 on a scale of 1 (no risk) to 10 (certain to happen).

1) What is the risk of bass spawning in the upper stretch of the river if we off ramp bass flows before dam release temperature fall below 15.5°C? This may result in an unknown period with temps in the Ferry exceeding 16°C. For example, in 2023 the Ferry did not fall below 15.5°C until Nov 20. Risk was evaluated on a 1-10 scale where 1 was no risk at all and 10 was a 100% certainty.
2) Given the conditions in question 2, what is the risk of offspring surviving into spring 2025?
3) In your expert opinion, how many days in the fall would the river need to be above 15.5°C for a spawn to succeed? Risk was evaluated on a 1-10 scale where 1 was no risk at all and 10 was a 100% certainty.
4) If fish do recruit into 2025, will we be able to identify post-flow spawned fish as having spawned after flows stopped?
5) What action does the panel recommend until we see temps come out of the dam at 15.5°C?
6) Please list any additional questions, comments and concerns.

Response summaries:
1) Risk of bass spawning: Avg 5.43 (Range 3-8)
2) Risk of offspring surviving winter: Avg 5.6 (Range 1-9)
3) Days above 15.5 for spawning to succeed: Range 2-38 days (varies greatly on conditions considered)
4) Will we be able to identify fall-spawned fish in the spring: 1 No, 2 Unlikely, 1 Likely, 1 Certain (based on small size)
5) Recommendation: 1 Offramp ASAP, 4 Continue bypass until dam releases <15.5°C.

Highlighted comments:
This is a small selection of the comments provided in each document. We highly recommend reading the original responses for a better understanding of each agency's thoughts, concerns, and comments.

- Ensuring that the experiment finishes with as much certainty that bass affected by flows makes the results of the experiment easier (possible) to analyze.
- Cost of continuing flows for the final period appears minor compared to the cost to date.
- Experimental duration/earlier off ramping may be a variable in future years.
- Consider the location of the temperature target (RM15, Lees Ferry)
- Cool mix flows appear to have worked for smallmouth bass, but may not have prevented green sunfish reproduction.

Conclusion of questions/majority opinions and dissents
Four of our panel members generally expressed concern about the potential for bass spawning and overwintering to survive into 2025. These members suggested maintaining bass flows until dam release temperatures are below 15.5°C. One panel member dissents from this concern and highlights the number of days required for bass to reach a size threshold needed for overwinter survival. This panel member suggests off ramping as soon as practical.