

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 15.5C? This may result in an unknown period with temps in the Ferry exceeding 16C. For example, in 2023 the Ferry did not fall below 15.5C until Nov 20.

I would defer to Drew Epeheimer and Charles Yackulic from GCMRC on the risk for spawning to occur.

2) Given the conditions in question 2, what is the risk of offspring surviving into spring 2025? If SMB successfully spawn, I would anticipate that some proportion would successfully hatch and be able to over winter, although again I would defer to recommendations from GCMRC who have been working more closely on the risk analysis for SMB.

3) In your expert opinion, how many days in the fall would the river need to be above 15.5C for a spawn to succeed? See comment on question #1. Water temperature seems to be a more significant driving factor on spawning, vs. a factor like photoperiod. Guidance on the number of days above 15.5C for successful spawning of SMB is contained within the SEIS and should be consistent between fall and summer. Survival of YOY would likely be lower for fall spawned fish.

4) If fish do recruit into 2025, will we be able to identify post-flow spawned fish as having spawned after flows stopped? Captures of YOY SMB have been minimal this summer, given cooler water releases through the winter and slow growth associated, it is likely that small juveniles captured in the early spring, may be able to be attributed to spawn dates in November after analysis of otoliths and projected growth, although some uncertainty will always exist.

5) What action does the panel recommend until we see temps come out of the dam at 15.5C?

6) Please list any additional questions, comments and concerns.

The intention of the SMB flows are to deter spawning of SMB as a preventative measure to reduce the likelihood of establishment downstream of Glen Canyon Dam. It seems the cost to continue through the last date of 15.5C water is relatively minor as compared to the flows this summer, which do appear to have been effective based on the minimal capture of YOY SMB this year. From this standpoint, the continuation of the flows through the fall to ensure no spawning despite low apparent risk may be in the best interest of the program to avoid long-term costs of management and removals should establishment occur.