

Field Activity Advisory
Redd and Carcass Surveys to Estimate Adult Spring-Run Chinook Salmon Spawning Success
in the San Joaquin River Restoration Area
August – December 2023

The Bureau of Reclamation's Fisheries and Wildlife Resources Group and the California Department of Fish and Wildlife, in support of the San Joaquin River Restoration Program (SJRRP), will perform monitoring for adult spring-run Chinook salmon (*Oncorhynchus tshawytscha*; Figure 1) redds and carcasses in Reaches 1A of the Restoration Area from August through December 2023. This effort will detail spatial and temporal spawning patterns of adult salmon, spawning success, and estimate abundance of adult spawning fish in the Restoration Area. In addition, tissue samples collected from this effort will be further processed for genetic analyses, permitting identification of juvenile parentage and individual adult spawning success when paired with additional SJRRP fisheries monitoring. Data collected for this study will inform SJRRP fisheries and flow management decisions and habitat rehabilitation efforts that aim to promote Chinook salmon populations in the San Joaquin River.



Figure 1. – Adult spring-run Chinook Salmon carcass recovered in the San Joaquin River, California.

Who: Bureau of Reclamation and California Department of Fish and Wildlife.

What: Returning adult female spring-run Chinook salmon excavate a nest in gravels and deposit eggs which are concurrently fertilized by a male(s) and then covered with a mound of gravels and cobbles forming a redd. Redd surveys are commonly used in systems where salmonids are present as they provide an estimate of reproductive adults and effective population size. When completed consistently across multiple years, these data provide population trends and are an important metric for effective management and species recovery. Adult spring-run Chinook salmon die shortly after spawning, providing nutrients for the watershed ecosystems of their natal rivers and data collection opportunities for scientists. Recovered carcasses can be used as part of a mark-recapture approach to provide an additional (i.e. redd counts) estimate of escapement, and measurements and samples collected from tissues can provide data on origin, age, and sex.

Where: There will be no in-river equipment installed for this effort. However, 3-4 staff monitoring from Friant Dam (RM 267.5) to Highway 99 (RM 243.1) in watercraft (i.e., kayaks, rafts, boats) will occur weekly. In addition, colored flagging identifying individual redds may be present on nearshore vegetation throughout the study reach. All flagging will be removed at the end of the field season.

When: Monitoring will begin in August 2023 and weekly efforts will take place through December 2023 if environmental conditions are adequate.

Considerations: Access to the locations will occur from the public right-of-way or in areas where private landowners have granted access.

Questions about this activity should be directed to the study's agency points-of-contact provide below.

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Questions about the SJRRP should be directed to the SJRRP Public Affairs Specialist, listed below, and questions about Program field activities on public and private land should contact the or Landowner Coordinator below.

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Contact the SJRRP Hotline, 916-978-4398, or email RestorationFlows@restoresjr.net if you see any problems or have any concerns.

**For more information, please visit the SJRRP Web site at www.restoresjr.net.
Field Advisories for activities are available at
www.restoresjr.net/activities/field/index.html**