



## Field Activity Advisory Redd & Carcass Survey, Egg Survival & Emergence Study, and Redd Incubation Environment Study

October 9, 2015

The San Joaquin River Restoration Program will conduct activities to better understand salmonid spawning habitat quality in Reach 1. These surveys will focus on: 1) locating redds (nests); 2) describing the physical habitat characteristics where redds are placed; 3) installing redds grates and evaluating their effectiveness in preventing redd superimposition (another female laying eggs on an existing redd); 4) recovering carcasses to determine spawning success; 5) monitoring egg survival and emergence rates from capped redds; and 6) sampling and monitoring the incubation habitat quality within capped and uncapped redds, and the ambient streambed. These studies will assist the SJRRP in identifying potential limitations in the available spawning habitat and inform managers of the need, or lack thereof, to implement spawning habitat restoration actions.

**Who:** U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW)

**What:** Weekly surveys will be conducted by boat to find, measure, and mark redds produced by Chinook salmon (Figure 1) that have been transported to Reach 1 as part of adult trap and haul program, scheduled to begin Nov. 2 at the San Joaquin River confluence of the Merced River. Chinook salmon carcasses encountered during redd surveys will be sampled for scales, otoliths, and physical observations, measurements and jaw tagged. Additionally, reinforcing bar with mesh rock bags (Figure 3) will be placed over all redd tailspills to evaluate whether these “redd grates” could be an effective method to minimize redd superimposition. Installation and monitoring of emergence traps will take place at up to 20 locations in Reach 1 of the San Joaquin River. Emergency traps (Figure 4) will be installed over redds placed naturally by transported adults to assess egg survival, emergence rates, and incubation habitat quality.



Figure 1: Chinook salmon spawning in Reach 1 of the San Joaquin River during 2013. Arrows point to Peterson disc tags implanted in transported adults.



Figure 2: Salmon redd egg pocket markers have been concealed on the tailspills of all identified redds for evaluation of incubation habitat quality. If observed, please do not touch or remove.

Emergence traps will be monitored regularly to assess the number and condition of emerging juveniles. Water quality monitoring equipment will be installed to better understand factors affecting egg survival and fry emergence rates. Using markers (Figure 2) concealed on redd tailspills, incubation habitat sampling will be performed on both capped and uncapped redds, as well as the adjacent ambient streambed to assess and understand the physical habitat parameters affecting egg survival and fry production. Environmental disclosure documents have been prepared including a California Environmental Quality Act Notice of Exemption and a National Environmental Policy Act Categorical Exclusion and are available upon request.

**When:** Redd surveys are scheduled to begin October 29, 2015. Emergence traps will be installed approximately one week before expected fry emergence and monitored regularly through April 2016.

**Where:** These activities will occur in Reach 1 of the San Joaquin River from Friant Dam to approximately 2 miles downstream of the Highway 99 Bridge. Access 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 agencies points-of-contact:

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Questions about activities on public and private land should be directed to the SJRRP Landowner Coordinator, Craig Moyle. Craig's contact information is provided below.

Craig Moyle, Landowner Coordinator  
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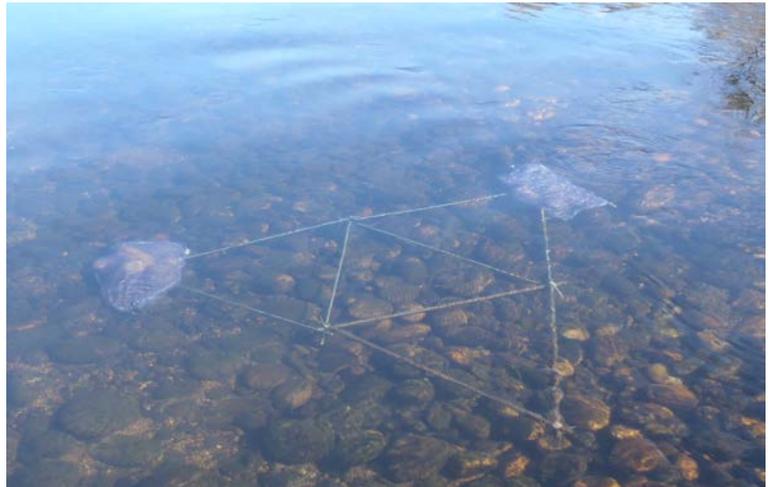


Figure 3: Redd grate placed over redd in Reach 1 of the San Joaquin River during 2014.



Figure 4: Emergence trap placed over redd in Reach 1 of the San Joaquin River during 2014.

For more information, please visit the SJRRP Web site at [www.restoresjr.net](http://www.restoresjr.net).