

## Field Activity Advisory

### San Joaquin River Juvenile Salmon Trap Efficiency Study

April 12 – 21, 2016

This notice is to inform the public of an upcoming research study to measure capture efficiency of traps installed to collect offspring of fall-run Chinook salmon captured near the Merced River confluence and released to the San Joaquin River near Highway 99. This activity includes the release of several thousand juvenile Chinook salmon at three locations. Boat passage around/over these activities will be provided, however, river users are asked to take additional caution.

**Who:** Bureau of Reclamation.

**What:** In order to evaluate the capture ability of the juvenile salmon trap and haul collection methods, efficiency tests will be performed at each sampling location. These locations include temporary fence weirs at three locations on the San Joaquin River between Highways 41 and 145. Weirs were constructed nearly bank to bank, using wire mesh panels, supported by metal posts and wooden A-frames, leading to a collection box. Fish enter the collection box through a V-shaped passageway. These fish collection tools were installed in February and have been maintained daily.



Juvenile Fall-run Chinook Salmon Collection Weir



PIT Tag Array on San Joaquin River

PIT tagged and individually marked fall-run juvenile Chinook salmon will be used to evaluate the collection weir's ability to capture downstream moving individuals. PIT tag antennas will be installed both upstream and downstream of all sampling locations. This will allow biologists to determine whether released fish were "experiment participants" (*i.e.*, if the fish swim upstream of the collection device, they are considered non-participants and cannot be included in the total numbers of fish used to evaluate the efficiency). Downstream PIT tag arrays will determine how many fish pass the weir and are not captured. Nearly 6,000 salmon will be used in the efficiency test measuring approximately 70 mm in length. We are anticipating releasing 9 replicates of 200 PIT tagged fish throughout a 3-day evaluation period at each site.

PIT tag arrays installed at each site will either be a flat plate design on the river bottom or a pass-through design with wires

4 – 6 inches below the water surface. Fish are counted as they swim over/through the array. Both array styles can be floated over by boat or kayak, however, the pass-through style can be tangled by outboard motor propellers. The arrays include high tensile strength Kevlar rope and wire connected to t-posts located on shore. Flashing safety lights, buoys, flagging, and signage will be placed at each location to alert boaters of the arrays presence. Kayak and boat passage is available at each sampling location.

Juvenile Chinook salmon trap efficiencies will help to establish acceptable collection practices in subsequent low flow years when the San Joaquin River may not reach the Merced River confluence due to drought or other factors. If successful, similar actions could be used in the future with juvenile salmon when flows limit the connectivity throughout the Restoration Area.

**Where/When:** Juvenile Chinook salmon trap efficiency evaluation will occur from April 12 – 21, 2015.

Planned dates and locations are as follows:

Scout Island	April 14
Highway 99	April 16
Skaggs Bridge	April 18

**Considerations:** Kayaks, canoes, and jet boats can freely pass over PIT tag arrays. We ask propeller driven motors to please tilt motor or pass over while motor is in neutral. All array sites will have flashing amber lights, marked by buoys, and will have a sign posted with Program contact information in the event of a problem. The sites will be visited by staff multiple times throughout the day to ensure array integrity and inspect for potential problems.

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

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Questions about the SJRRP's field activities on public and private land should be directed to the SJRRP Outreach Coordinator or Landowner Coordinator using the information provided below.

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**Contact the SJRRP Hotline, 916-978-4398, or email [RestorationFlows@restoresjr.net](mailto: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](http://www.restoresjr.net).**

**Field Advisories for activities are available at [www.restoresjr.net/activities/field/index.html](http://www.restoresjr.net/activities/field/index.html)**