

## Field Activity Advisory

### San Joaquin River Juvenile Salmon Trap Efficiency Study

#### April 9 – May 1, 2015

This notice is to inform the public of an upcoming research study to measure the capture efficiency of traps installed to collect the progeny 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 five locations. Boat passage during these studies will not be affected, however, river users are asked to take additional caution.

**Who:** Bureau of Reclamation

**What:** In order to evaluate the capture ability of the juvenile trap and haul collection methods, efficiency tests will be performed at each sampling location installed in February. These locations include temporary fence weirs at four locations on the San Joaquin River between Highway 41 and Highway 99. Weirs were constructed from bank to bank, using wire mesh panels and supporting metal posts leading to a collection box. Fish enter the collection box through a V-shaped passageway that inhibits exit. Restrictive bars at the collection box entrance allow smaller fish to enter and block larger fish (*i.e.*, predators). In addition to weirs, temporary fish collection nets were installed at a location



Juvenile Fall-run Chinook Salmon Collection Weir

downstream of Highway 99 Bridge. Kayak and boat passage is available at each sampling location.



PIT Tag Array on San Joaquin River

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.

PIT tagged and fin-clipped 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. Numbers of fish used in the efficiency test will be determined by availability in April once they are at least 70 mm in length. We are anticipating releasing 10 replicates of 100 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.

**Where/When:** Juvenile fall-run Chinook Salmon trap efficiency evaluation will occur between April 9 and May 1, 2015. Planned dates and locations are as follows:

Donny Bridge / Highway 99	April 13 – 15
Milburn Unit	April 20 – 22
Scout Island / Fig Garden Golf Course	April 27 – 29

**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)**