

## Field Activity Advisory

### San Joaquin River Basin-wide PIT Tag Monitoring Evaluation and Site-specific Technology Assessment

April 4, 2012

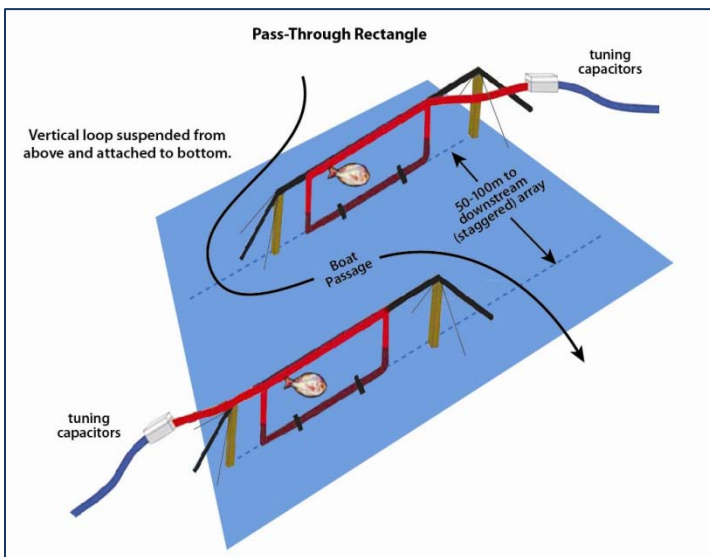
In conjunction with a research study to collect data that will help the San Joaquin River Restoration Program (SJRRP) understand how juvenile Chinook salmon move through the San Joaquin River, Passive Induced Transponder (PIT) tag arrays will be installed and monitored at certain locations along the San Joaquin River through May 31, 2012, that would allow tracking and identification of every individual fish that is PIT tagged.

**Who:** Reclamation’s Technical Service Center - see the March 19, 2012, Fish Telemetry Study Field Advisory, located at [www.restoresjr.net/activities/field/index.html](http://www.restoresjr.net/activities/field/index.html), for the related study.

**What:** A modified design of a PIT tag array will be installed in the river. At each site, Reclamation would build two arrays: an upstream array partially enclosing the channel followed by another array 50-100 yards downstream constructed partially across the channel and from the opposite bank. This design of paired, staggered arrays will allow for continuous boat passage while the equipment is in the river. The array uses a single loop of 4-8 gage wire across the bottom of the river and coming back to the shore, forming a loop that is attached to a high tensile strength ¼ inch Kevlar rope. The array is supported by t-posts on shore.

The two wire ends feed directly into a tuning box which completes the loop (figure below). A wire then leads to a secure steel job box that contains the PIT tag reader and power supply (12-volt battery). A fish swims through the wire loop and the magnetic field created by the wire loop excites a capacitor in the tiny 12mm-long PIT tag which then transmits an individual code. The reader records the code and the time of transmission. The placement of arrays provides the “last detection” data and can show where the highest losses of fish occur.

**Where:** The arrays will be installed in 7 locations in the San Joaquin River to track fish movement. The current sites are listed in the table below.



**PIT tag array diagram**

Location and Installation Date
Lost Lake State Park, Fresno County – April 12
Ecological Preserve, SJR Conservancy – April 11
Highway 41 (upstream of bridge behind trailer park) – installed as test site
Scout Island – April 13
Skaggs Bridge County Park – April 14
San Mateo Crossing (2 arrays at this location) – April 15 and 16

**When:** From April 10 - 16, 2012, crews will install the arrays, which will operate for approximately two

months and will be removed by May 31, 2012. The arrays will be visited weekly for maintenance during this period.

**Considerations:** Kayackers, canoers, and jet boats can freely pass over the arrays if the river water level is high enough. All array sites will have flashing yellow lights at night, will be marked by buoys, and will have a sign posted with Program contact information if there is any problem. The sites will be visited by staff every two days to ensure array integrity and inspect for potential problems. The cable that stretches across the river is very soft, plastic coated, and can be easily cut with a knife, if need be.

Access to the array 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 using the information provided below.

Donald Portz, PhD  
Fisheries Biologist, Reclamation Denver Technical Service Center  
Mobile: 303-859-9505

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

Craig Moyle, Landowner Coordinator  
Office (operator): 916-924-8844  
Office (direct line): 916-418-8248  
Mobile: 916-642-6383  
Fax: 916-924-9102  
E-mail: craig.moyle@mwhglobal.com

**Contact the SJRRP Hotline, 916-978-4398, or email [InterimFlows@restoresjr.net](mailto:InterimFlows@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).  
Maps with the specific locations of the arrays are available at  
[www.restoresjr.net/activities/field/index.html](http://www.restoresjr.net/activities/field/index.html)**