SAN JOAQUIN RIVER RESTORATION PROGRAM

Bureau of Reclamation
2800 Cottage Way, MP-170
Sacramento, Calif. 95825-1898

Field Activity Advisory
Trap and Transport and Streamside Spawning of Adult Fall-run Chinook Salmon

November 1 - December 31, 2014

The San Joaquin River Restoration Program is conducting a trap and transport study to capture stray salmon and transport these fish to the spawning area in Reach 1 of the Restoration Area. Salmon that are able to get past the Hills Ferry Barrier (HFB) near the confluence of the Merced River are being used. This study will develop protocols and evaluate the feasibility of using trap and haul to transport adult Chinook salmon around existing barriers to suitable holding and spawning habitat in the San Joaquin River (SJR). Locations of transported adult salmon spawning sites will also be monitored in Reach 1 and this information will be used to adaptively manage future salmon recovery efforts for a more effective implementation of the Restoration Goal.

Once adequate numbers of male and female salmon have been trapped and successfully transported for streamside spawning, additional fish will be acoustically tagged and tracked in Reach 1 of the Restoration Area. Eggs from females will be mixed with milt from the males and incubated in streamside incubators in secure locations near Friant Dam. Once the eggs have reached the swim-up stage, they will be removed from the streamside incubators and placed into holding pens. Fish will be held in cages for at least ten days for imprinting purposes or until they reach a size large enough for tagging. After these fish receive a unique mark to identify them as the streamside spawned fish, they will be released in the Restoration Area of the SJR for study purposes. Fish required for Program studies (e.g., telemetry or passive integrated transponder tag studies) will be held until they are large enough for the intended purpose most likely ending in May 2015.

Who: Bureau of Reclamation, U.S. Fish and Wildlife Service (FWS), and California Department of Fish and Wildlife (DFW)

What: The Trap and Haul study is utilizing adult fall-run Chinook salmon collected above the HFB - a temporary barrier that is operated every year from mid-September to mid-December in the SJR near the Merced River confluence. The barrier is used to keep salmonids from the SJR mainstem and redirect them to the Merced River. Fish that get past the barrier travel up the SJR to encounter dry reaches and often go into Mud and Salt Sloughs that typically have greater flow than the mainstem SJR, but no suitable spawning habitat. These fish are considered lost and are not able to contribute to populations in the downstream tributaries.

Fish will be collected using fyke nets installed upstream of the HFB. Fyke nets used in the mainstem river are constructed of two 150 feet long, 6-feet tall, 1.5 inch #15 treated nylon wing walls funneled to a 6 foot x 6 foot collection box that leads to five, five-foot diameter fiberglass hoops with 10-inch diameter funnel throats. Nets set in sloughs will be similar in design except they will be 4 feet tall with 1 inch square #21 treated nylon netting and 3.5 foot fiberglass hoops. T-posts will be used to anchor the wing wall to one or both stream banks depending on location and presence of boater traffic. T-posts will also be used to stake off the terminal end of the trap with additional T-post being placed along the wing walls for support as needed. T-posts will be pounded in to a depth of 1-2 feet using hand tools.

All trapped salmon will be measured for fork length, sexed, given a condition score (i.e. good, poor. etc.), and tagged with a visible external Peterson disk tag and an acoustic transmitter. Tagged fish will be loaded streamside into a fish transport tank that will be filled with water at ambient river temperature with 10 percent NaCl. Dissolved oxygen will be maintained at 8mg/L or more in the transport tanks during the fish haul upstream to a suitable release location below Friant Dam and above the Highway 99 Bridge. Fish will be acclimated to the release location while remaining in the haul tanks upon arrival if the water temperature difference is greater than 2º C. Once acclimated, fish will be removed from the live wells with a large dip net and released.

Single channel receivers (receivers) capable of identifying coded transmitter tags will be strategically placed to monitor fish movements throughout the SJR from downstream of Friant Dam, and various locations at spawning or passage points in the area down to the SR 99 Bridge. A maximum of 20 receivers will be used. Additionally, tagged fish will be manually tracked using a portable receiver from a boat and from shore to determine the locations between receivers or specific locations within sections of the river. Fish will be tracked and monitored to determine movements, observe behavior and redd selection locations, and assess survival. Information gathered during this study will better inform future studies and improve trap and haul techniques that may eventually be necessary for reintroducing spring-run Chinook salmon.

Where: Fish will be collected using fyke nets installed upstream of the HFB, at Mud and Salt Sloughs and on the SJR above the confluence with Salt slough, and with dip nets on canals upstream of the HFB.

When: November 1– December 31, 2014. Fyke nets will be installed after November 1, 2014, if temperatures and flows are adequate, and removed under the same criteria conditions.

Considerations:

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

Salmon die after spawning, so the carcasses of these fish will be in the river. Fish will be tagged with the Program's hotline phone number. Anyone who discovers a fish with a tag can call to report where the live fish or carcass was located and the color of the tag. As part of the life cycle, the carcasses break down and return nutrients and other beneficial products back into the river.

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

Donald Portz
Fisheries Biologist, Reclamation, Phone: (303) 859-9505
Email: dportz@usbr.gov

Matt Bigelow
Environmental Scientist, California Dept. of Fish and Wildlife, Phone: (559) 243-4014 ext. 258
Email: mbigelow@wildlife.ca.gov

Zac Jackson
Fisheries Biologist, U.S. Fish and Wildlife Service, Phone: (209) 334-2968 ext. 408
Email: zachary_jackson@fws.gov

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 (direct line): 916-418-8248
Mobile: 916-642-6383
Email: craig.moyle@mwhglobal.com

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