



Meeting Summary

Fisheries Management Technical Feedback Group
Meeting Friday, March 1, 2013

CSU Stanislaus, 1 University Circle, Turlock, CA 95382
South Dining Room
FINAL: 2013.06.24

Attendees

Paul Adelizi, California Department of Fish and Wildlife
Matt Bigelow, California Department of Fish and Wildlife
Jason Faridi, Fishbio
Elif Fehm-Sullivan, National Marine Fisheries Service
Ron Forbes, Delta Fly Fisheries, NCCFFF
Carlos Garza, National Marine Fisheries Service
Ben Gettleman, Kearns & West
Rene Henery, Trout Unlimited
Zac Jackson, U.S. Fish and Wildlife Service
Ryon Kurth, California Department of Water Resources
Bill Luce, Friant Water Authority
Tracy MacReynolds, U.S. Fish and Wildlife Service

Palmer McCoy, Henry Miller Reclamation District
Rod Meade, U.S. Restoration Administrator
Bruce Orr, Stillwater Sciences
Don Portz, U.S. Bureau of Reclamation
Rhonda Reed, National Marine Fisheries Service
Erin Rice, U.S. Bureau of Reclamation
John Rueth, U.S. Fish and Wildlife Service
Jonathan Schram, National Marine Fisheries Service
Jose Setka, East Bay Municipal Utility District
Janet Thomson, Kearns & West
Kim Webb, U.S. Fish and Wildlife Service
Michelle Workman, U.S. Fish and Wildlife Service

Introductions, Meeting Purpose, Agenda Review

Kim Webb, U.S. Fish and Wildlife Service (USFWS), opened the meeting and welcomed the meeting participants. Ben Gettleman, facilitator, reviewed the meeting objectives, which included updates on spring-run Chinook salmon (spring-run) reintroduction rules and the spring-run captive rearing program, results from recent fisheries-related studies, and information about upcoming fisheries-related studies.

Update on Proposed Spring-Run Reintroduction Rules

Elif Fehm-Sullivan, National Marine Fisheries Service (NMFS), provided an update on the status of the Endangered Species Act (ESA) Section 10(j) designation of an experimental population of spring-run on the San Joaquin River. Ms. Fehm-Sullivan stated that ESA section 10(j) requires that the experimental population must occur in a delineated area and it will have a threatened designation. Threatened species have take protections under ESA Section 9, but take exemptions can be defined as provided under ESA Section 4(d) for conservation purposes. The proposed experimental population rule is available for review on the San Joaquin River Restoration Program website; the comment period ends Monday, March 4, 2013.

Additional information from Ms. Fehm-Sullivan's presentation included:

- In the proposed population rule, NMFS determined that the experimental population will further the conservation of the species because: take of spring-run from existing populations for the reintroduction is still covered under ESA Section 10 and Section 7 and cannot be permitted if it will jeopardize the continued existence of the species; the fish will be in good habitat because the San Joaquin River Restoration Program is required to do channel and habitat improvements to make existing suitable habitat accessible to salmon; NMFS will consider the source population condition in gathering founding stock; the conservation fish facility will limit the number of fish collected from source populations; and other state and federal laws will continue to protect the riparian habitats.
- NMFS determined that this experimental population is not essential to the continued existence of the species because there are currently no spring-run populations in the San Joaquin River, and existing populations in the Sacramento River would not be dependent on the experimental population for their continued survival. The experimental population would be separate from the persisting populations in the Sacramento River. The rule proposes that this would be designated a nonessential experimental population (NEP). The NEP designation only affects consultation requirements of federal agencies related to ESA section 7.
- The proposal would exempt any take that is incidental to otherwise legal activities, so current activities in the NEP area would continue. Fishery management actions (e.g., rescuing a stranded fish) would exempt from take. Current take restrictions (e.g., intentional direct take) will remain in place. Scientific research and enhancement activities would require take permits under ESA section 10 or 4(d).
- Outside the NEP area, in order to meet the de minimus requirements of the federal legislation (San Joaquin River Restoration Settlement Act, PL 111-11 Title X), take due to otherwise lawful activities related to the diversion or receipt of water from San Joaquin River to Mossdale is exempted. Additionally, take of reintroduced spring-run is exempted at the pumps in the South Delta.
- Within the NEP, existing lawful activities will not change. NMFS will work with California Department of Fish and Wildlife (CDFW) to adjust fishing regulations as needed; fishing for other species can continue as currently allowed.
- Outside the NEP, the reintroduction will not impose more than de minimus water supply reductions, additional storage releases, or bypass flows.
- The preferred action included in the Environmental Assessment associated with the 10(j) determination supports reintroduction of spring-run salmon on the San Joaquin River to the confluence of the Merced River, with no sunset clause limiting the duration of the reintroduction.

Questions:

Q: Why are the Central Valley Project and State Water Project exempt from take restrictions outside the NEP area?

A: The federal legislation requires that the reintroduction of spring-run to the San Joaquin River should result in a de minimus impact on specific third parties (those receiving and delivering water). The take restrictions and exemptions in this rule have been crafted to meet those requirements.

Update on Current Spring-Run Regulations

Rhonda Reed, NMFS, provided an update on current spring-run regulations in California. Ms. Reed stated that the existing ESA Section 4(d) rule for spring-run in the Sacramento Valley provides that if hatchery fish (e.g., from the Feather River Fish Hatchery) are adipose fin clipped, they are exempt from the take protections that apply to the rest of the species. NMFS will be changing the regulations so that if the fish are adipose fin clipped in the NEP area, they will have take protection once the experimental population rule is in place. Once the fish are below the confluence with the Merced River, the existing Section 4(d) rules would apply again.

The current rule is important now, in light of moving captive spring-run broodstock to the interim conservation facility on the San Joaquin River. These fish are not permitted to be released to the river, but if these juvenile fish are adipose fin clipped, this will provide ESA take coverage in the unlikely event of an unintended or accidental release.

Questions:

Q: Would hatchery spring-run fish that are adipose fin clipped and go into the Merced, Tuolumne, or Stanislaus Rivers be exempt?

A: Yes, because these areas are outside the NEP area. Beyond the NEP boundary, existing Section 4(d) rules for the species will apply.

Q: If the hatcheries changed to an identification method other than adipose fin clipping, would these take exemptions and protections still be in place?

A: The Section 4(d) rule is not flexible to allow for different identification methods. NMFS would have to go through a rulemaking process or change the rule. The existing and proposed rules do not have a proposed timeline or sunset clause.

Update on Spring-Run Chinook Captive Rearing Program

Paul Adelizi, CDFW, provided an update on the spring-run captive rearing program. Mr. Adelizi stated that the intent of the program is to take small numbers of juvenile spring-run out of the river system, rear the juveniles to adulthood, and then spawn them and release their offspring into the San Joaquin River. This creates low impacts on the donor systems and provides the fish that the Program needs to reintroduce to the San Joaquin River. The Program is working to use as many natural fish rearing methods as possible.

Additional updates from Mr. Adelizi's presentation included:

- CDFW is mating unrelated individuals and using modern genetic tools to create a diverse genetic pool. Additionally, CDFW is trying to avoid early maturation of the salmon (prior to three years), which can be a problem for captive rearing.
- The natural rearing methods will include use of a stream-side incubator that allows the fry to swim down and into the gravel before being captured in a tank.
- CDFW has been working with the Fisheries Management Workgroup and a Genetics Subgroup. SJRRP staff have developed a Stock Selection Strategy, a Reintroduction Strategy, and a Hatchery Genetics Management Plan.
- Jointly, CDFW, USFWS, and NMFS collected broodstock at the Feather River Fish Hatchery in September 2012. They collected fish, recorded their hallprint tags to ensure that they were spring-run, mated 90 pairs of fish that had coded wire tags, and gathered other data including

fork length, ovarian fluid batch, fecundity, tissue samples, and determined the fishes' age and whether their parents were indeed spring-run.

- Once the juveniles are settled at the San Joaquin Fish Hatchery they will be PIT tagged and tissue sampled. The males and females will be separated and the growth rate of the males will be slowed to avoid early maturation. CDFW will monitor the growth rates of the fish quarterly.

Questions:

Q: What is the purpose of spawning “jacks” and “jills” in fall 2013?

A: The first jacks and jills should appear in fall 2014. If there are fish that mature that early we will run through the process of spawning them in order to learn from the experience. At that time, the Program will determine the disposition of offspring produced from precocious parents.

Adult Fall-run Transport Study

Don Portz, U.S. Bureau of Reclamation (Reclamation), and Matt Bigelow, CDFW, provided information about their work to capture, transport, relocate adult Fall-run Chinook from Reach 5 to Reach 1 of the Restoration Area. These fish were subsequently tracked using acoustic telemetry and spawning had occurred from some released pairs. A juvenile Chinook salmon was captured by electrofishing downstream of potential redds and this fish is most likely the result of the spawning activity from a translocated pair of fish. This work was largely successful and has provided useful information to better inform biologist about adult transport and potential spawning areas for future efforts.

Additional updates from Dr. Portz's and Mr. Bigelow's presentation included:

- Reclamation set up fyke nets at Hills Ferry Barrier, the rock weir near Bear Creek, and several other locations including Salt Slough and Mud Slough. Reclamation staff checked the nets daily and recovered the fish for CDFW to transport.
- Chinook salmon were the most commonly caught fish in the fyke nets, which is not surprising because the nets are designed to catch migratory fish. Reclamation also caught 16 other species, most of which are not native to the river. The majority of the fish were caught above the Hills Ferry Barrier (where the fish are straying into the San Joaquin River) and further upstream at the wetted extent of the San Joaquin River at Bear Creek. Fish biologists caught many more males than females (91 and 28, respectively).
- Each fish had a unique tag identifier so Reclamation and DFW biologists could track individual fish movements. Individual acoustic tag numbers were recorded (only 34 fish) as well as a fish genetic tissue sample, fish measurement, and external floy tag.. The fish were then released at Camp Pashayan.
- CDFW set up telemetry locations throughout the river from below Highway 99 up to river mile 265.5 in Lost Lake Park. Most of the spawning activity occurred from Highway 41 to Friant Dam.
- CDFW had two successful streamside spawns and one unsuccessful spawn of ripe fish, during which the male died in transport. From the spawn to the swim-off stage of the two successful streamside spawns, the survival rates were 91 percent and 96 percent. These offspring were transferred to net pens for rearing.

Questions:

Q: What were the main problems leading to the failure of the second spawning?

A: The biggest problem was that the male expired in transport; it was 1.5 hours of transport and it was not clear how long he had been expired. The female was in good condition.

Egg Survival Study

Michelle Workman, USFWS, provided an update on the study that evaluated the survival of incubating salmonid eggs in existing gravel beds. The study used an existing model to predict egg survival based mainly on particle size in the San Joaquin River. USFWS created 10 artificial redds from Friant Dam down to Highway 41 and assessed the development and survival of the embryos buried in egg tubes in the substrate (for comparison with the results from the predictive model). This work has management implications for the San Joaquin River Restoration Program – it can predict survival estimates for reintroduced populations and help to determine appropriate places for restoration actions.

Additional updates from Ms. Workman's presentation included:

- The study was conducted in Reach 1A, from the base of Friant Dam below the 206 bridge down to Highway 41.
- At each site, the agencies measured gravel size distribution, permeability, fine sediment accumulation, water temperature, and dissolved oxygen in the water column and hyporheic zone. Egg tubes with 50 eyed Fall-run Chinook eggs from the Feather River Fish Hatchery were buried at a typical salmon redd depth of 6-18 inches. Because the eggs were subject to a lot of handling and transportation, USFWS kept one control group at the hatchery in egg tubes and another one traveled with USFWS to determine mortality related to the handling process.
- USFWS used accumulated thermal units to determine when the fish were at the emergent stage. At that point, USFWS dug up the egg tubes and counted dead eggs and dead and live alevin, and age classed the fish.
- In 2011 the average survival from the egg tubes ranged from 13 percent – 50 percent for the experimental groups and 50 percent – 66 percent for the control groups. In 2012, the egg tube survival ranged from 20 percent – 54 percent and the control data is not yet available.
- The study showed that there are two gravel class sizes present in this habitat that can be problematic. The 0.85mm size is so small that it can suffocate the eggs. The 9.5mm size entombs the eggs.
- USFWS had the predictive model estimate Chinook and steelhead survival based on the gravel size class information. The model estimated 90 percent survival in the upper sites and 50 percent in the lower sites. Those are high estimates but provide a useful comparative estimate. The reality in the field followed the predicted pattern although at an overall lower survival rate.

Questions:

Q: Why was survival so low for the control groups?

A: The eggs were subject to a lot of travel. Also, since the eggs are in egg tubes, if one egg gets fungus the whole tube can go bad. That would result in almost no survival for that egg tube, while other tubes might have 100 percent survival. Error bars could portray these data better so that this variability is clearer.

Q: In general when you have a stratified sample is there a high percentage of fine substrate in the top?

A: The fine sediment is actually found in the subsurface layer and consists of a high proportion of sand. Fine sediment composed of sand is much different than fine sediment composed of silt; sand does not stick to the egg as much so that high proportions of fine sand are preferable to high proportions of fine silt.

Juvenile Survival and Migration Study

Michelle Workman, USFWS, provided information about the movement rates of juvenile salmonids. Movement rates were generally fast in 2011 and a little slower in 2012, with different pulses showing significantly different patterns. In 2013, USFWS will look at reach-specific survival by conducting two releases of young-of-year Chinook, coordinated with scheduled pulse flow events. This year, USFWS will be releasing Feather River Fish Hatchery Fall-run Chinook, streamside-spawned Fall-run Chinook, and Merced River Hatchery Fall-run Chinook.

Rotary Screw Trap Study

Matt Bigelow, CDFW, noted that the agency is working to place rotary screw traps in the San Joaquin River. This has been delayed because of permitting issues but should occur in the next few weeks both upstream of Highway 99 and below the San Mateo Road crossing. The upstream location will provide an estimate of production and the downstream location will provide a sense of recapture rates in that area. In the future there may be two additional locations, currently planned at Gravelly Ford and below the Chowchilla bifurcation structure, but these sites may not be suitable.

Questions:

Q: Will you try to determine trap efficiencies for each location this year?

A: Yes, we expect to learn a lot even with the late start.

Q: How long will you leave the traps in once they are placed?

A: After June 1, 2013 if we have ten consecutive days without catches we will remove the traps. Otherwise we will wait until July 1, 2103 to remove them.

Next Meeting

Suggested topics for the next Fisheries Management Technical Feedback Group included:

1. Summarize the PIT tag and acoustic tag initial study results
2. Provide an update on the steelhead monitoring plan
3. Seek feedback on the adult transport plan for the coming fall

Meeting Adjourned