



## Meeting Summary

Fisheries Management Technical Feedback Group Meeting  
Friday, November 2, 2012

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*Bureau of Reclamation, 2800 Cottage Way, Sacramento, CA 95825  
Cafeteria Conference Room C1003  
FINAL: 2013.1.14*

### Attendees

Paul Adelizi, California Department of Fish and Game  
Jason Faridi, Fishbio  
Elif Fehm-Sullivan, National Marine Fisheries Service  
Ron Forbes, Delta Fly Fisheries, NCCFFF  
Ben Gettleman, Kearns & West  
Chuck Hanson, Technical Advisory Committee  
Rene Henery, Trout Unlimited  
Abimael Leon, California Department of Water Resources  
Bill Luce, Friant Water Authority

Rhonda Reed, National Marine Fisheries Service  
Monty Schmitt, Natural Resources Defense Council  
Jonathan Schram, National Marine Fisheries Service  
Tom Taylor, Cardno ENTRIX  
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 receiving an update on reintroduction documents, and receiving an update and soliciting technical feedback on: collection of Spring-run Chinook salmon broodstock at the Feather River Hatchery, the juvenile survival and migration study, and the Fall-run Chinook captive rearing study.

### Update on Reintroduction Documents

Elif Fehm-Sullivan, National Marine Fisheries Service (NMFS), provided an update on the status of the Endangered Species Act (ESA) Section 10(a)(1)(A) enhancement of species permit to take Spring-run Chinook salmon from the Feather River Hatchery, transport them to the San Joaquin River basin, and raise them in a broodstock facility.

Ms. Fehm-Sullivan noted that USFWS initially applied for the 10(a)(1)(A) permit in September 2010, and that the application included the collection of broodstock from Mill, Deer, and Butte Creeks. After receiving public feedback on that approach in February 2011 and December 2011, USFWS submitted a revised, final version of the permit application that requests collection of broodstock solely from the Feather River Hatchery (only eggs or juveniles that will not be used to meet hatchery production goals) and enables holding and rearing fish in an interim facility and the Salmon Conservation and Research Facility (SCARF). Ms. Fehm-Sullivan emphasized that the

permit does not include placement of the fish in the San Joaquin River; additional rules under ESA and another permit would be required for the release of fish into the river.

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

- NMFS developed an Environmental Assessment to determine potential environmental impacts and conducted a round of public comment in May 2012 to inform the permit development.
- The SCARF program will institute natural rearing techniques including the use of more natural structures in holding areas, a bottom feeding orientation so that fish do not always surface to feed, and exercise. All fish will be tagged using passive integrated transponder (PIT) tags and visual implant tags. Prior to spawning, adults will receive Petersen disc tags, and all hatchery juveniles will have adipose fin clips and coded wire tags.
- The interim facility and SCARF are integrated into the emergency action plans of the San Joaquin River Fish Hatchery and Friant Fishwater Release hydroelectric project. If an emergency release of fish is needed, the fish will be loaded into transport tanks and transported to appropriate points for release either to the Delta or Feather River. The fish will not be placed in the San Joaquin River.
- If an experimental population of spring-run Chinook is not designated by way of section 10(j) of the ESA by the time this section 10(a)(1)(a) permit concludes in 2017, USFWS will work with NMFS to develop a plan for disposition of the fish being reared and held at the interim facility or SCARF.

Questions:

Q: Will another section 10(a)(1)(A) permit be required once the 10(j) and 4(d) rules are issued?

A: Yes, USFWS would be required to apply for another 10(a)(1)(A) permit to review impacts and enable release of the experimental population fish.

Q: When will the ESA Section 10(j) rule be approved?

A: NMFS hopes to release the proposed 10(j)/4(d) rules to the public in early 2013.

Q: Will the section 10(j) rule be linked to the California Department of Fish and Game (DFG) fishery management rules for the San Joaquin River?

A: Yes, NMFS is working with DFG to develop a rule that they could concur with. They would be expected to concur 30 days after the rules are final.

Q: Will DFG be required to issue a consistency determination for the current and any future Section 10(a)(1)(a) permits, as well?

A: Yes. This Section 10(a)(1)(a) permit is fully in effect as of its signature on October 22, 2012, but a consistency determination will provide coverage for third parties working under the actions permitted in the permit.

### **Update on Collection of Spring-run Chinook Salmon Broodstock at Feather River Hatchery**

Michelle Workman, USFWS, provided an update on broodstock collection activities for fall 2012. Ms. Workman notes that DFG, NMFS, and the Feather River Hatchery have been coordinating on

staffing, requirements for DFG pathology, and proposed dates for conducting data collection and analysis. She added that USFWS reconvened the Donor Stock Collection Plan Workgroup that involves San Joaquin River Restoration Program (SJRRP) staff and interested participants from other watersheds including Butte, Mill, and Deer Creeks. This group will develop the annual donor stock collection plan for permitting each year.

Additional updates from Ms. Workman's presentation included:

- DFG Feather River Hatchery staff opened the fish ladder in September 2012 and collected fish on September 21, 25, and 28 to collect fish throughout the spawning season. For fish collected from each date, the first 30 males and females were mated and the eggs were tracked into single egg trays. SJRRP staff recorded tag numbers, tracked the mated pairs, and calculated the total number and ounces of eggs in each stack. The NMFS science center is conducting genetic mapping on all of the Feather River Hatchery spring-run Chinook salmon.
- The broodstock eggs, which are hatching, can remain at the Silverado Fisheries Base until the temperature becomes limiting in late March or early April 2013. Once the DFG consistency determination is completed, these fish can be moved to the interim facility. The translocation fish can remain at the Feather River Hatchery until June 2013, by which point the 10(j) experimental population permit and 4(d) rule should be in place so that the fish can be moved to the San Joaquin River.

### **Update on Juvenile Survival and Migration Study**

Michelle Workman, USFWS, provided an update on the 2012 juvenile survival and migration study in the San Joaquin River restoration area. Ms. Workman stated that from a long-term perspective, the study goals are to analyze fish movement rates through the system, determine how route selection changes with different water operations and water year types, and review survival rates across these conditions. Ms. Workman noted that USFWS is particularly looking at areas of potential loss due to predation and entrainment in order to provide management direction once fish are reintroduced into the system.

Additional updates from Ms. Workman's presentation included:

- In 2012, USFWS tracked fish from two size classes that were placed in the river at various pulse levels. The fish survived well in the restoration area in 2011. In both 2011 and 2012, there was a significant difference in movement rates in different reaches. Additionally, the peak temperature for 2012 coincided with the release of fish into Reach 5, which probably impacted survival rates.
- In 2013, USFWS plans to continue releasing fish below Friant Dam, independent of operation status, in order to have a consistent release group across operation and year types. USFWS will continue to release downstream where there are connections, and will conduct targeted releases upstream of particular mine-pit complexes.

#### Questions:

Q: Is there a hypothesis as to why one of the two later young-of-year releases suffered higher death rates high in the system?

A: When the river was flowing at 700 cubic feet per second (cfs), the fish may have decided to stay in the river to rear, but chose poor locations (such as mine pits), while at 1000 cfs the velocity was high enough to encourage the fish to migrate out of the system.

Q: What was learned about the efficacy of the passive integrated transponder (PIT) tags?

A: Generally, the receivers and tags worked. USFWS and Reclamation will provide a joint report on the data in December 2012.

Q: Were the fish thermally acclimated between being taken from the conservation facility and being placed in the river?

A: Yes, USFWS keeps the temperature of the transportation tanks to within two degrees of the river temperatures.

Q: Are there other water quality differences between the release water and the hatchery source water?

A: USFWS only monitors dissolved oxygen and temperature. There are probably significant differences in water constituency, especially in conductivity.

Michelle Workman distributed a handout with information about proposed studies for 2013, which include:

- Adult transport – trap and haul
- Real time data collection on source streams (Butte Creek)
- Juvenile holding – net pen study
- Captive rearing assessment
- Juvenile survival/migration
- Mine pit predator assessment
- Egg survival
- Fish population assessment – inventory and monitoring
- Minimum floodplain requirements; and
- PIT tag feasibility evaluation.

Questions on 2013 studies included:

Q: Will USFWS conduct a pilot study to further understand the effects of temperatures on fish survival and movement?

A: The original study proposal included an element for rotary screw trapping. That portion of the study may still be tested.

Q: Will USFWS consider fish survival during transport?

A: Yes; the same protocols used in the pilot adult transport study at the Feather River Fish Hatchery will be followed.

Q: What is the time between capture and release for translocated fish?

A: The study plan calls for a total time of less than four hours between capture and release.

Q: How long are fish expected to take to move into the preferred territory and spawn after they have been released?

A: It depends on the development of the fish and tends to vary. Female fish tend to move more upstream and male fish often wander more and take their time.

Q: Is floating down the system necessary to detect signals from the acoustic tags?

A: Going through the river systematically is required to get a dependable detection.

### Update on Fall-run Captive Rearing Study

Paul Adelizi, DFG, provided an update on DFG's fall-run Chinook captive rearing study, the intent of which is to practice rearing the salmon to adulthood. Mr. Adelizi noted that the proposed location for the conservation hatchery is near the San Joaquin Fish Hatchery and will include locations for smolt and adult production, a volitional release channel for releasing juveniles to the river, and a research lab. Mr Adelizi added that if this program is successful, the population will be able to reproduce on their own and there will no longer be a need for captive rearing.

Additional updates from Mr. Adelizi's presentation included:

- A main focus of the captive rearing study is to promote genetic diversity. The study works with a diverse genetic population by mating unrelated individuals and using modern tools to identify genetics.
- One of the difficulties with captive rearing programs is that male fish tend to mature early (e.g., in this study, 15 percent of the males matured at year one). Through the study, DFG is learning how to manage the growth rate of the fish. About 15 percent of the precocious fish survived after spawning, which DFG attributes to high water quality at the facility (since the immune capabilities of fish usually drop during spawning).
- As part of the work in varying the growth rates of the fish, DFG performed genetic tests and separated males and females. DFG slowed the growth rates of males so that they do not mature too early.
- At the interim facility, DFG has also been conducting telemetry studies, egg survival studies, streamside incubation, and is working with Fresno State to study complex rearing environments.

#### Questions:

Q: Has DFG spoken with researchers working on the Shasta River about the precocious males they have observed in the wild? They have seen some of them survive after spawning. There may be literature available.

A: That information would be useful. It would be interesting to see if we can determine the survival of precocious males through our telemetry studies.

Q: Are there provisions within this program to re-establish fall-run Chinook, or is this program only concerned with Spring-run Chinook?

A: The conservation facility will primarily be used for spring-run Chinook; fall-run populations are not expected to need as much help from the hatchery. The Settlement requires re-establishment of both fall- and spring-run populations, but we anticipate that fall-run Chinook will be able to naturally recolonize once connectivity is restored in the upper portion of the river.

### Next Meeting

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

1. The draft proposed Section 4(d) rule
2. Spring-run Chinook permitting status
3. Update on the fall-run Chinook translocation/transport study
4. Update on the egg survival study

The next meeting may be held in a location south of Sacramento to enable more people located further south to attend. Potential locations include Lodi, Stockton, and Turlock. Staff will investigate setting up a conference call and/or webinar so participants can attend remotely.

## **Meeting Adjourned**