Planned Fall 2012 and Spring 2013
Fall-run and Spring-run Chinook Salmon Activities
July 31, 2012

Consistent with the Stipulation of Settlement in *NRDC, et al., v. Rodgers, et al.,* (Settlement) and the San Joaquin River Restoration Settlement Act in Public Law 111-11 (Settlement Act), the San Joaquin River Restoration Program (Restoration Program) is planning a series of activities using fall-run and spring-run Chinook salmon for fall 2012 and spring 2013. The Restoration Program plans to release fall-run and spring-run Chinook salmon to continue to learn how the different runs behave in the San Joaquin River and study survival and habitat use in the river. These near-term activities will rely on a variety of methods and techniques to overcome current channel capacity and fish passage impediments.

These activities contribute to the Settlement's Restoration Goal, which is to restore and maintain fish populations in good condition in the main stem of the San Joaquin River below Friant Dam to the confluence of the Merced River, including naturally-reproducing and self-sustaining populations of salmon and other fish. They also contribute to the requirement in the Settlement to reintroduce fall-run and spring-run Chinook salmon to the San Joaquin River.

The fall-run and spring-run Chinook salmon activities planned for fall 2012 and spring 2013 are described below. Additional details are being developed and will be available as part of the Restoration Program's Monitoring and Analysis Plan, a draft of which will be available for public review in early October. Permitting and environmental compliance activities, as required by State and Federal law, will also be completed. In addition, spring-run Chinook salmon will only be used in these efforts after the required Endangered Species Act (ESA) permits and rules are completed and it is determined that the conditions in these approval documents and the requirements of the implementing legislation can be met. The ESA section 10(a)(1)(A) permit by the National Marine Fisheries Service for "take" of spring-run eggs from the Feather River Fish Hatchery once the hatchery has reached its annual production goal is expected by the end of summer 2012. The ESA section 10(j) experimental population designation and section 4(d) take rules are expected in December 2012.

1. Collection of Spring-run Chinook Salmon Broodstock

The Restoration Program anticipates proceeding with developing a captive broodstock of spring-run salmon beginning in fall 2012. Up to 560 eggs would be separated for the Restoration Program during spawning operations at the Feather River Fish Hatchery once the hatchery has reached its annual production goal. After hatching, the juveniles

would be transported to a quarantine and holding facility. The juveniles would ultimately be transferred to the Interim Conservation Facility (fish hatchery near Friant Dam used solely for the Restoration Program's activities) where they would start the foundation of the Restoration Program's captive broodstock. No spring-run salmon will be transferred to the Interim Conservation Facility until the all permitting and compliance is completed, including the determination on the ESA section 10(j) experimental population designation and ESA section 4(d) rules.

As described in the Program's Strategy for Spring Chinook Salmon Reintroduction document prepared in 2011, the captive broodstock is a principal component for producing the quantity of eggs and juveniles needed to achieve the Restoration Program's reintroduction goals for spring-run salmon. Establishing the captive broodstock as soon as possible ensures the Program has the capacity to proceed with progressively larger releases of spring-run salmon. Eggs from the captive broodstock should be available to the Program beginning in 2015. The number of eggs available is expected to increase over time.

2. Juvenile Spring-run Chinook Salmon Releases

The Restoration Program is planning a focused release of spring-run salmon into the San Joaquin River. Up to 54,400 juvenile spring-run salmon would be collected from the Feather River Fish Hatchery once the hatchery has reached its annual production goal and held at a quarantine and holding facility until being transported to the San Joaquin River in early 2013. The juveniles would be reared in Reach 1 in fully enclosed net pens until they reach a size suitable for coded wire tagging (about 40 millimeters fork length) to allow them to imprint and adjust to the San Joaquin River. All juveniles released by the Restoration Program would be coded wire tagged. A smaller subset of the juveniles would be tagged with PIT or acoustic tags as well (requires fish to be raised to 60 millimeters fork length for PIT tags and 120 millimeters fork length for acoustic tags). After tagging, the juveniles would be either released on site or transported downstream to an appropriate release site depending on flow conditions. Any juveniles transported to downstream release sites would be held in net pens for a short period (48 hours or less) to assess their condition prior to release.

These tagged juveniles would provide data specific to spring-run salmon migration rates and reach-specific survival through the area from Friant Dam to the Merced River confluence, and would complement the Restoration Program's ongoing fall-run salmon studies. By tagging all released spring-run, their survival in the Restoration Area and through the Sacramento-San Joaquin Delta can be monitored.

This release is expected to result in some adult spring-run salmon returning to the system in three to five years. The Restoration Program plans to conduct monitoring for returning spring-run salmon adults starting in spring 2015. These spring-run salmon can be distinguished from other returning salmon as they would be individually tagged and return at a different time than the existing fall-run salmon runs in the San Joaquin River. Spring-run salmon that return from these releases would provide valuable information to support

future reintroduction efforts, including evaluating passage conditions, studying adult collection and transport procedures, and assessing spawning habitat usage.

Because fall-run and spring-run salmon migrate at different times of year, they are exposed to different passage and habitat conditions, necessitating the use of spring-run salmon to monitor fish passage, test an adult trap and haul program, and evaluate spawning habitat use. In addition, by using both spring-run salmon adults in conjunction with translocated fall-run salmon adults (described below) to evaluate use of spawning habitat, the Program would gain valuable information on the potential for spawning interference between the two runs and the possible need to segregate spawners.

3. Adult Fall-run Chinook Salmon Trapping and Translocation

In the fall of 2012, the Program would trap, transport and release fall-run salmon to provide these fish with access to suitable spawning habitat near Friant Dam. This effort would provide key answers to the feasibility of adult trap and haul operations and suitability and use of existing spawning habitat.

Established populations of fall-run salmon exist within the San Joaquin River tributaries and fall-run salmon have been frequently observed in the San Joaquin River and adjacent sloughs. Fall-run salmon would be trapped at locations above the Hills Ferry Barrier (above the Merced River confluence). Since the expected trapping success at a given location would be dependent on flow conditions, multiple sites are being evaluated. Trapping locations under evaluation include just upstream of Hills Ferry Barrier and at Mud and Salt sloughs.

Trapped fall-run salmon would be tagged with acoustic transmitters. Receiver arrays placed in the river would track the movement of these fish, including how far upstream they travel to spawn. This information would be used to assess fish movement, passage impediments, and suitable spawning habitat. The fall-run salmon adults that are trapped and transported would also be marked with external tags for easy visual identification. Trapped fish would be released upstream of Mendota Pool, with a variety of release locations under evaluation.

4. Continued Juvenile Fall-run Chinook Salmon Releases

In addition to the adult fall-run salmon actions described above, the Program would continue conducting in-stream studies with fall-run salmon eggs and juveniles, including migration survival studies using PIT and acoustic tags, evaluating egg incubation habitat, and continuing captive broodstock studies.

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