



San Joaquin River Restoration

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The San Joaquin River Restoration Program (SJRRP) is a long-term collaborative program to restore flows in the San Joaquin River, from Friant Dam to the confluence of the Merced River. One of the SJRRP's two primary goals are to restore a self-sustaining spring-run Chinook salmon population. The second goal is to reduce or avoid negative impacts on the water supply for all Friant Division long-term contractors.



Adult spring-run Chinook salmon at the Salmon Conservation and Research Facility near Friant Dam. Credit: California Department of Fish and Wildlife

How did the San Joaquin River Restoration Program start?

Friant Dam was completed in 1942 and provides flood protection and water storage for irrigation in the San Joaquin River Basin. Before the completion of Friant Dam, the San Joaquin River supported the southernmost populations of Central Valley spring-run Chinook salmon and fall-run Chinook salmon, where hundreds of thousands of Chinook used to return each year. After Friant Dam was completed, parts of the San Joaquin River began to run dry as more and more water was diverted into canals for agricultural irrigation. This disconnected the salmon from their habitat and eventually they were eliminated from the upper San Joaquin River.

Spring-run Chinook salmon need cool, clean water to survive the hot summer temperatures, because most of the cold spring snowmelt is now captured behind dams. Spring-run Chinook salmon can only survive in a few places in the entire Southern Sierra watershed. Currently, the tributaries of the lower San Joaquin River still support populations of fall-run Chinook salmon but spring-run Chinook salmon have been absent from the mainstem San Joaquin River for over 60 years.



Friant Dam in flood releases during spring. Photo: <https://friantwater.org/history>

In 1988, environmental groups sued the Bureau of Reclamation on the basis that the Federal government was in violation of California Fish and Game code 5937, because the dam did not direct enough water into the San Joaquin River to keep fish populations below the dam in good condition, resulting in the local extinction of the spring-run Chinook salmon. This trial spent more than 18 years in litigation, and on September 13, 2006, a settlement was reached. The Settling Parties, which include the Natural Resources Defense Council, Friant Water Users Authority (FWUA), and the United States Department of the Interior and Commerce, agreed on the terms and conditions of the Stipulation of Settlement in NRDC, et al., v. Kirk Rodgers, et al., (Settlement), which received Federal court approval in October 2006. In March 2009, the [San Joaquin River Restoration Settlement Act](#) [↗](#) was passed to implement the “[Settlement](#) [↗](#).” There are two main goals that came out of the Settlement (which later became the goals of the San Joaquin River Restoration Program):

1. Restoration Goal – To restore and maintain fish populations in “good condition” in the mainstem 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.
2. Water Management Goal – To reduce or avoid negative water supply impacts on all of the Friant Division long-term contractors that may result from the Interim and Restoration flows provided for in the Settlement.

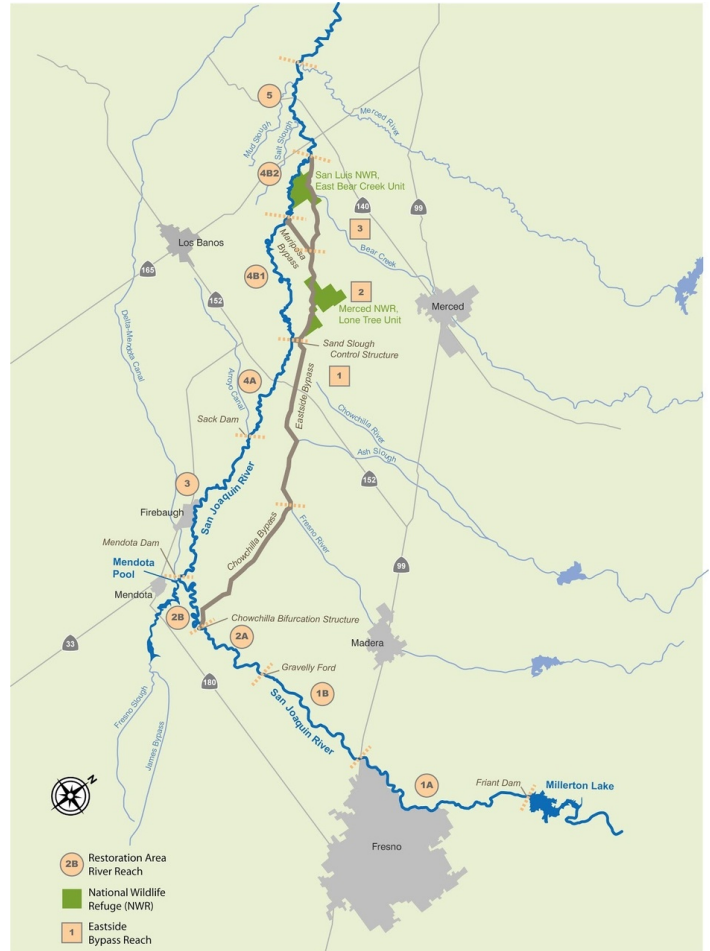
Who runs the San Joaquin River Restoration Program?

In accordance with the Settlement, the SJRRP is implemented by five state and Federal agencies:

- U.S. Bureau of Reclamation (Reclamation),
- U.S. Fish and Wildlife Service (USFWS),
- NOAA Fisheries,
- California Department of Water Resources (DWR), and
- the California Department of Fish and Wildlife (CDFW).

NOAA Fisheries' role in the SJRRP:

- Publish annual Spring-run Chinook technical memorandum
- Endangered Species Act section 10(a)(1)(A) scientific research and enhancement permitting
- Anadromous fish passage technical assistance
- Fish biology technical assistance



SJRRP Restoration Area. Credit: Bureau of Reclamation

San Joaquin River Spring-run Chinook Salmon Reintroduction

In 2013, NOAA Fisheries designated the Central Valley spring-run Chinook salmon reintroduced to the San Joaquin River as an experimental non-essential population in accordance with section 10(j) of the Endangered Species Act (ESA) ([78 FR 79622](https://www.federalregister.gov/documents/2013/04/22/78-fr-79622)). This allows for the release of threatened California Central Valley spring-run Chinook salmon outside their current range. The population is considered an experimental, non-essential population (meaning that if the population doesn't survive, it will not threaten the whole evolutionarily significant unit, or ESU), because the population is geographically separate from the protected population of the same species. In addition, ESA section 4(d) provides protective regulations to landowners, including ESA section 9 take exceptions for activities performed in the Restoration Area (the San Joaquin River from Friant Dam to the confluence with the Merced River). This means that landowners won't be liable for harming these fish during otherwise lawful activities (such as normal land and water uses).

Final Rule for Designation of Experimental Populations Under Section 10(j) of the Endangered Species Act

- [Final Rule \(81 FR 33416; May 26, 2016\)](#)
- [Environmental Assessment for the Final 10\(j\) Rule and associated take provisions](#)
- [Environmental Assessment: Response to Comments](#)
- [Frequently Asked Questions](#)



First adult Central Valley spring-run Chinook salmon to return to the San Joaquin River in over 65 years. Credit: Bureau of Reclamation

The Fisheries Management Plan: A Framework for Adaptive Management in the San Joaquin River Restoration Program and Fisheries Framework for spring-run and fall-run Chinook salmon developed by the Bureau of Reclamation (BOR) are documents that provide strategies, goals, actions, and physical and biological targets for the SJRRP that will help restore the San Joaquin River back to a state that will support spring-run Chinook salmon.

The Fisheries Management Plan: A Framework for Adaptive Management in the San Joaquin River Restoration Program, completed in 2010, summarizes known information about existing conditions and defines the problems that need to be addressed to reestablish Chinook salmon and other native fish populations to 'good condition' in the San Joaquin River.

The Fisheries Framework for spring-run and fall-run Chinook salmon, completed in 2018, outlines the goals and objectives for establishing self-sustaining spring-run and fall-run Chinook salmon populations in the Restoration Area. The Fisheries Framework also provides the scientific background to management actions, habitat objectives, and outlines the proposed Adaptive Management process and implementation plan for fishery actions. Habitat objectives are designed to reduce physical, biological and ecological threats or stressors within the river that currently limit the survival of healthy fish populations. The fisheries objectives describe how management activities related to habitat, hatcheries, and meaningful measurements of fisheries success will achieve the Restoration Goal.

The Long-term Monitoring Plan will be a guidance document that identifies the monitoring needed to track spring-run and fall-run Chinook in the SJRRP Restoration Area, as well as track long-term progress toward achieving the Restoration Goals. The plan also identifies monitoring needed to inform annual decisions like flow release and fisheries management, as well as advice on how to prioritize current adaptive management tactics, inform future decision making, and combine multi-

stakeholder and multi-disciplinary monitoring efforts for effective and efficient monitoring. This plan is not yet complete, but when it is available it can be found on the [SJRRP website](#) [↗](#).

Other Relevant SJRRP Reintroduction Documents:

- Fisheries Framework: Spring-run and Fall-run Chinook Salmon ([SJRRP 2018](#) [↗](#)).
- Hatchery and Genetic Management Plan (SJRRP 2010b and 2016)
- Minimum Floodplain Habitat Area for Spring and Fall-Run Chinook Salmon ([SJRRP 2012a](#) [↗](#))
- Stock Selection Strategy for Spring-run Chinook ([SJRRP 2010c](#) [↗](#))
- Reintroduction Strategy for Spring-run Chinook Salmon ([SJRRP 2011](#) [↗](#))



NOAA Fisheries employees helping out at the Salmon Conservation and Research Facility. Credit: Paul Adilizi with CDFW

Enhancement of the Species and Research Endangered Species Act (ESA) Section 10(a)(1)(A) Permits

- Section 10(a)(1)(A) [Permit 16608-2R](#) San Joaquin River Restoration Program Steelhead Monitoring
- Section 10(a)(1)(A) [Permit 20571](#) Reintroduction of Spring-run Chinook Salmon to the San Joaquin River, from the Merced confluence to Friant Dam



A Juvenile Salmon Acoustic Telemetry (JSAT) tag being implanted in a juvenile spring-run Chinook salmon (left) and juveniles being released into the Restoration Area in the spring of 2017 (right).

Technical Memorandum


As part of the requirements of the Final 10(j) rule to re-introduce the experimental population of spring-run Chinook salmon into the San Joaquin River, NOAA Fisheries annually develops a technical memorandum (Tech Memo) to track the downstream releases and captures of spring-run Chinook salmon produced by the SJRRP. The Tech Memo is a way to condense and share

information about activities conducted by the SJRRP over the previous year and identify what juvenile and adult spring-run Chinook salmon release activities are planned in the upcoming year. In addition, the Tech Memo documents how spring-run Chinook salmon that originated from SJRRP will not create more than *de minimus* water supply impacts on third parties.


Annual Tech Memos




- [2023 San Joaquin River Spring-run Tech Memo](#)
- [2022 San Joaquin River Spring-run Tech Memo](#)
- [2021 San Joaquin River Spring-run Tech Memo](#)
- [2020 San Joaquin River Spring-run Tech Memo](#)
- [2019 San Joaquin River Spring-run Tech Memo](#)
- [2018 San Joaquin River Spring-run Tech Memo](#)
- [2017 San Joaquin River Spring-run Tech Memo](#) 
- [2016 San Joaquin River Spring-run Tech Memo](#) 
- [2015 San Joaquin River Spring-run Tech Memo](#) 
- [2014 San Joaquin River Spring-run Tech Memo](#) 

Guidance Document for Annual Tech Memo (2015)

[Guidance Document for Methods to Assess San Joaquin River Spring-run Chinook Salmon in Relation to CVP/SWP Delta Facility Operational Triggers and Incidental Take Limits](#) 

How can I find out more information about the San Joaquin River Restoration Program?

For more information on the SJRRP, please visit: [the SJRRP website](#)  or click on the documents below.

- [2012 Record of Decision and Final Program Environmental Impact Statement/Report](#)
- [Field Advisories](#) 
- [Real Time Flow Data](#) 
- [Funding Constrained Framework](#) 

More Information

- [California Central Valley Office](#)
- [San Joaquin River](#)

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