

# The San Joaquin

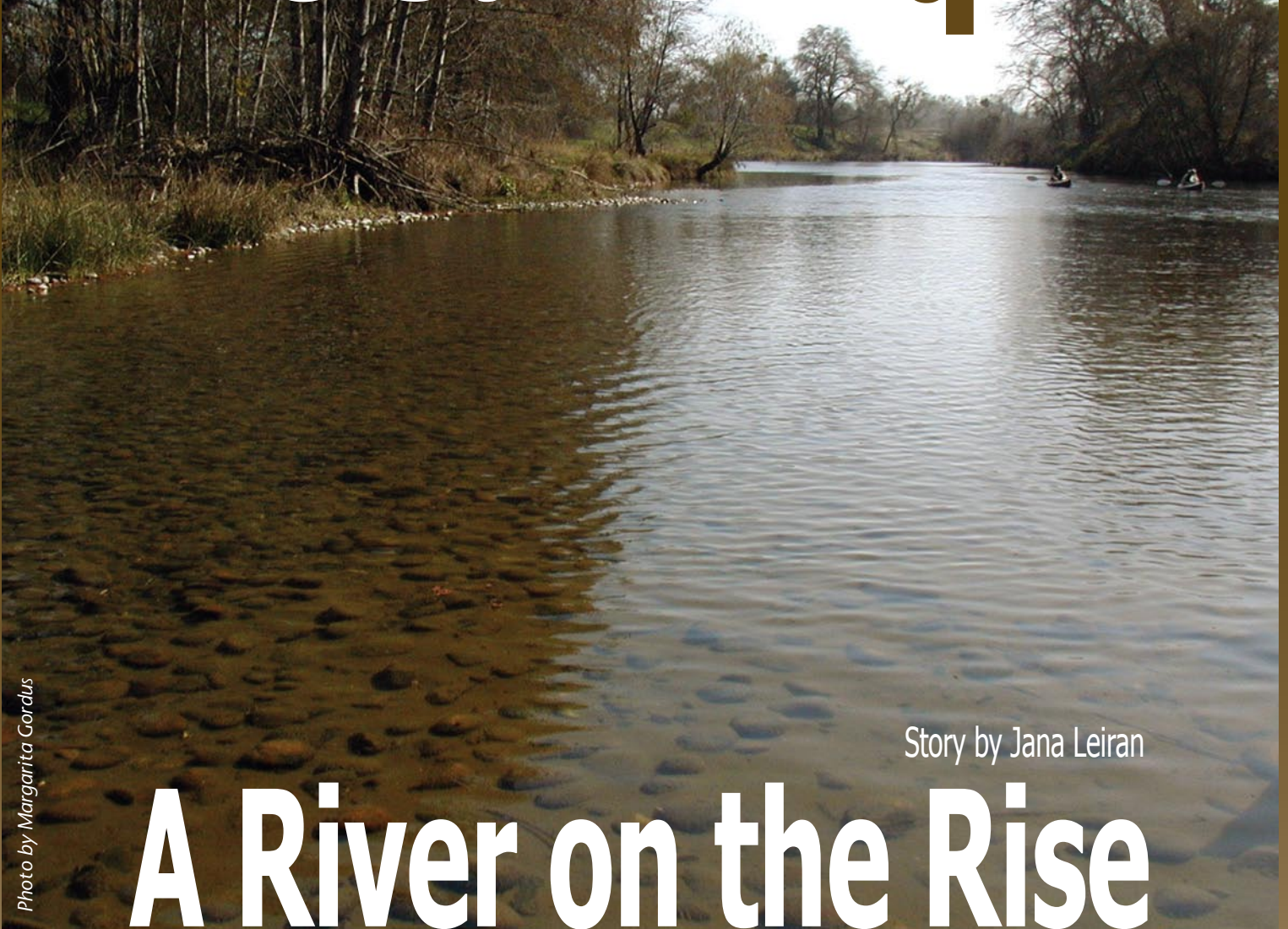


Photo by Margarita Gordus

Story by Jana Leiran

## A River on the Rise

Increase water flows on the San Joaquin River will begin later this year on a temporary basis to mimic restoration levels. As part of the renewal project, fisheries experts hope to reintroduce spring-run Chinook salmon to the state's second longest river by 2012.

**The San Joaquin** River will literally rise this October as part of an ambitious Central Valley river restoration effort. The water level of the river will change only slightly, but other changes brought about by the historic San Joaquin River Restoration Program are considerable as the river prepares for the return of Chinook salmon.

The restoration program is the result of an 18-year lawsuit, a collaborative effort today between the California Department of Fish and Game, Department of Water Resources, the Environmental Protection Agency, the U.S. Bureau of Reclamation, Fish and Wildlife Service and the National Marine Fisheries Service. The original participants of the lawsuit as well as various stakeholders

are also involved.

The goals of the effort are to restore and maintain salmon and other native fish populations in the main stem of the San Joaquin River from Friant Dam downstream to its confluence with the Merced River. Objectives are to restore approximately 153 miles of the San Joaquin River channel, the second longest river in California, and reduce or avoid adverse water supply impacts to the Friant Division long-term water contractors.

The leaders of the restoration effort have called it, "one of the most significant and ambitious river restoration projects in the West."

Chinook salmon were once plentiful in the San



Joaquin River. However, because of water diversions, hydropower and water storage projects, and encroaching development during the last 100 years, river conditions have changed from supporting large numbers of salmon to favoring non-native fish and riparian vegetation species. In addition to these challenges, numerous physical barriers to salmon exist and—with the

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exception of high flows—the river runs completely dry in certain areas. Water flowing from upstream of the Merced River confluence consists mostly of poor quality agricultural drainage.

Both adult and juvenile salmon require cold, clear running water, suitable physical habitat including riffles and pools, along with suitably sized gravel bottoms for spawning

and appropriate shallow water habitat for rearing. The San Joaquin River experiences degraded water quality from agricultural and municipal runoff, low flows that have caused extensive sand accumulation and altered the natural form and function of the channel. Chinook salmon have been extirpated from the river nearly 60 years.

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As a state trustee agency for natural resources, DFG collects data, evaluates river conditions and assists in developing a fisheries management plan through a series of environmental impact reports and statements. DFG also works with the restoration partners on engineering, water management and environmental permits. DFG staff members are making recommendations for improvements to ensure the state's resources are protected.

In October, the Bureau of Reclamation will release interim flows from Friant Dam. These flows are intended to mimic restoration flows required by the lawsuit settlement and will provide scientists and engineers necessary data to evaluate effects and impacts. Activities



Photo © FISHBIO

will also include permitting appropriate modifications of the channel and the construction of fish screens, barriers and other project improvements, including a potential conservation salmon hatchery. Reintroduction of spring-run Chinook salmon is slated for 2012.

Total project cost estimates range as high as \$800 million. Congress recently passed the San Joaquin River





Restoration Act that provides federal funding that augments the \$200 million in state bond funds.

Find more information about the the San Joaquin River Restoration Program at DFG's Web site, [www.dfg.ca.gov](http://www.dfg.ca.gov) or at [www.restoresjr.net](http://www.restoresjr.net). 

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A DFG crew floats the Stanislaus River, a tributary of the San Joaquin, carrying out salmon escapement surveys. Conducted between October and December, the surveys help determine the number of returning adult Chinook salmon. Among other more detailed information, surveyors look for carcasses, redds—or spawning beds—and live salmon.