

FOR IMMEDIATE RELEASE

## **Record Numbers of Salmon Return to Hot Water on the Stanislaus River**

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OAKDALE, Calif. – After a bit of a slow start to the 2015 migration on the Stanislaus River, fall-run Chinook salmon are now returning in record numbers. Since 2003, a weir has been used to count the number of fish returning to the river. Between Oct. 24 and 25, FISHBIO recorded 795 salmon passing through the weir, which set a record for the number of salmon returning in a single 24-hour period since monitoring began.

FISHBIO scientists note that the salmon migration is peaking more dramatically than in previous years. As of Nov. 9, more than 6,000 salmon have passed through weir, which is the largest number of fish observed by that date since monitoring began in 2003. This year's migration already has surpassed the season total of 5,436 salmon counted in 2014.

However, these record numbers bring little cause for celebration because of the coinciding record highs in river water temperatures, which can kill salmon eggs. “We’re on track to get one of the highest abundances of returning adult salmon in the last 12 years,” said FISHBIO principal and senior biologist Andrea Fuller. “But the sad thing is we don’t expect much of anything from them in terms of reproduction. There isn’t a single riffle in that river with suitable temperature conditions for their eggs.” The water temperature in the river is about 60 degrees F, a full 5 degrees warmer than normal and higher than what is considered suitable for egg survival.

It turns out that the pulse flows prescribed by the federal government intended to help salmon have actually contributed to this temperature quandary. Such water releases during the prolonged drought have drawn down the water level of New Melones Reservoir past the point where the water released downstream can stay cool enough for salmon to thrive. With the cold water gone, managers are out of options to help this year’s salmon. Fuller noted that similar challenges have been encountered at Lake Shasta in trying to maintain temperatures cool enough for winter-run Chinook salmon on the Sacramento River.

One explanation for the banner number of adult Chinook salmon on the Stanislaus River this year is the poor conditions on the San Joaquin, Tuolumne and Merced rivers. The San Joaquin River upstream of the Stanislaus River confluence, as well as the Tuolumne and Merced rivers, is severely clogged with invasive water hyacinth, likely creating a barrier that causes many fish to seek out the Stanislaus River instead. FISHBIO’s fish-counting weir on the Tuolumne River has only observed 78 salmon as of Nov. 8, and the California Department of Fish and Wildlife has reported only about 22 salmon in the Merced River this year.

While students are taught the basic salmon lifecycle of traveling from river to ocean to river, the scenario in the Stanislaus River is not quite so simple. FISHBIO’s scientists believe that almost all of these returning fish were not actually born on the Stanislaus River, but instead came from hatcheries, either on the Merced River or in the Sacramento River basin. FISHBIO observes whether each returning salmon has its adipose fin to calculate how many fish came from hatcheries, which clip the adipose fins off a proportion of the fish they release. The scientists also note it is unlikely that many wild salmon born in the San Joaquin basin would have survived to

return as adults this year. Warm water temperatures have taken a toll on eggs throughout the valley, and non-native predators have taken a huge bite out of the number of juvenile salmon that make it into the main stem San Joaquin River, let alone to the ocean. While a record salmon migration would seem like a success, digging deeper actually reveals a number of the challenges facing salmon in the Central Valley.

Funding for salmon monitoring on the Stanislaus River, including the fish-counting weir, is provided by the Oakdale Irrigation District, the South San Joaquin Irrigation District and the Tri-Dam Authority, with equipment on loan from the U.S. Fish and Wildlife Service. FISHBIO has been sharing weekly updates of the weir fish counts with third- and fourth-grade teachers in Oakdale, Ripon and Modesto as part of the company’s Three Rivers Education Program. Students have been able to graph the salmon migration as it happens and compare this real fisheries data to the migration patterns of previous years.

**About FISHBIO:** *FISHBIO is a fisheries and environmental consulting company with offices in Chico, Oakdale, and Santa Cruz, Calif., and Vientiane, Laos. FISHBIO is dedicated to advancing the research, monitoring, and conservation of fishes around the world.*

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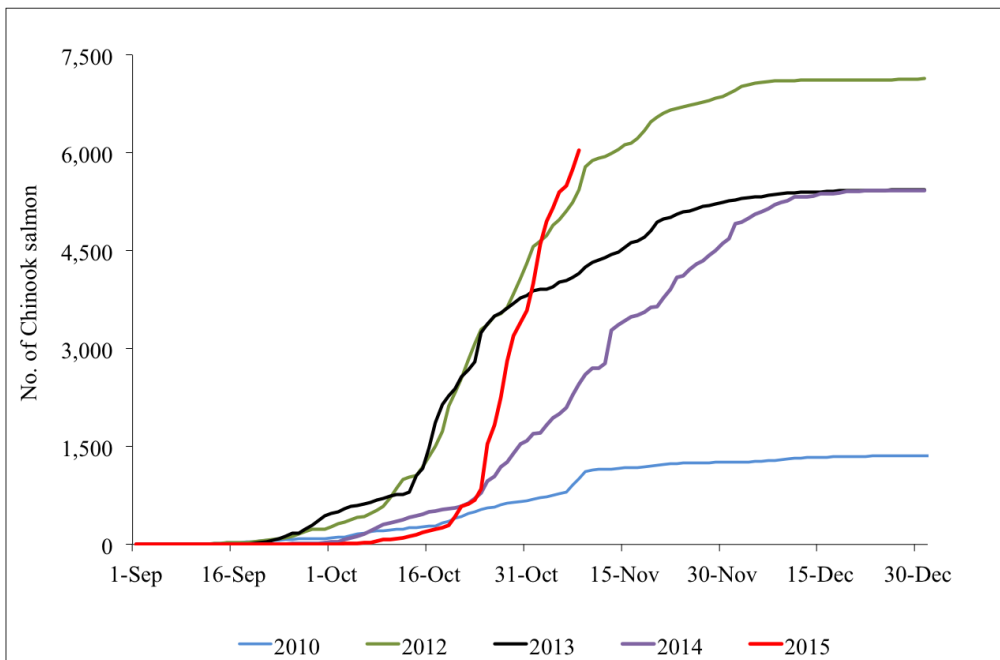


Figure 1. The total number of Chinook salmon returning to the Stanislaus River to-date in 2015 (orange line) compared to previous years.