

Extreme heat could kill nearly all young salmon in the Sacramento River, officials say

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The Sacramento River is too hot for a young species of salmon to survive.

(CNN) California officials are warning nearly all juvenile chinook salmon in the Sacramento River could die due to abnormally hot underwater conditions as heat waves continue to bake the West.

There could be a "near-complete loss" of the young endangered species of salmon because temperatures above 100 degrees for extended periods of time are overheating the river, making it uninhabitable for the fish to grow beyond their egg stage, the California Department of Fish and Wildlife (CDFW) confirmed to CNN on Tuesday.

"This persistent heat dome over the West Coast will likely result in earlier loss of ability to provide cool water and subsequently, it is possible that all in-river juveniles will not survive this season," CDFW said in a statement.

California, among other [Western states](#) including Oregon and Washington, has been experiencing extremely high temperatures in recent weeks. But drought conditions in the Golden State are especially taxing, with much of the state under severe or exceptional drought, according to the [US Drought Monitor](#).

The drought is so bad in some parts of that state that a family's well in Clovis in Fresno County ran dry, leaving them without water, [CNN reported](#).

Meanwhile, as temperatures near and surpass triple digits, many reservoirs in California's Central Valley have diverted more water to cities and farmers during the drought, making rivers shallower and too hot for the fish to develop from eggs, a process which can take at least 60 days to complete.

According to CDFW officials, water is more insulated when it is deep. However, since more water is heating up and evaporating, the salmon are losing their insulation blanket, which normally makes it colder at the bottom of the river. The eggs will die when the water temperature rises above 56 degrees, officials said, warning only a few thousand of winter-run Chinook are left.

"It's an extreme set of cascading climate events pushing us into this crisis situation," said CDFW spokesman Jordan Traverso.

Efforts to save salmon are pricy

To combat the poor river conditions in the Central Valley, some fish preservation organizations have tried to save the salmon population by launching large scale trucking operations to transport millions of salmon to the San Pablo Bay, San Francisco Bay and other fish farms where they are more likely to survive, Traverso said.

The CDFW announced Tuesday that it had successfully relocated 1.1 million juvenile salmon from the Klamath River in northern California, where conditions are similarly extreme.

While relocating salmon is an option, there are better alternatives than the high-priced trucking process, a spokesperson for the [Golden State Salmon Association](#) said.

John McManus, president of the association, said dam operators could hold on to more water to keep the fish alive, but that would require contracts to be modified between the operators and their federal and state partners who supply water to cities and farmers.

A warmer California recently prompted Gov. Gavin Newsom to call on voluntarily reductions of water use by 15% to protect reserves and to help maintain critical flows for fish and other wildlife.

"We could lose salmon here in California if we continue with business as usual and the climate continues to warm," McManus said. "There's a very real possibility we could lose salmon forever here."

Jon Passantino and Aya Elamroussi contributed to this report.