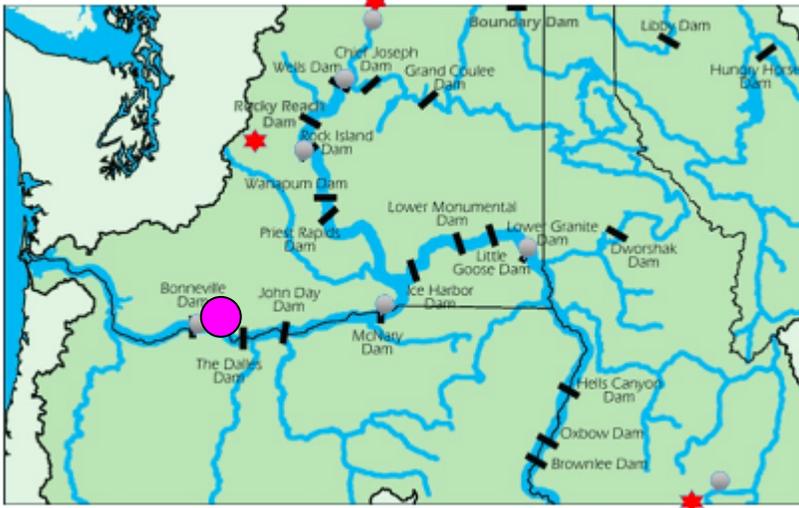


FREQUENTLY ASKED QUESTIONS: DYING SOCKEYE SALMON

What are the fish dying at the mouth of the Little White Salmon River?

These fish are adult [sockeye salmon](#) that just returned from the ocean. Right now, they should be migrating much further up the Columbia River to spawn in mountain lakes in the Okanogan, Yakima, and Snake river systems. [Snake River sockeye](#) are on the federal Endangered Species list and dangerously close to extinction.



Map of the Columbia River Basin. Purple oval shows the mouth of the Little White Salmon River. Red stars show major sockeye spawning areas. Black dashes show large hydroelectric dams.

Why are sockeye there? Is it natural?

Because the Columbia River is too hot, these sockeye are taking refuge in small, cold tributaries like the Little White Salmon River instead of completing their natural upstream migration.¹ The Little White Salmon River does not support sockeye spawning, and sockeye are only seen here when Columbia gets too hot.

Why is the Columbia River too hot?

Dams on the Columbia and Lower Snake Rivers create large, stagnant reservoirs that soak up the sun's energy, making the water too hot for salmon.² Climate change is making this bad situation even worse.³

Will these sockeye eventually go upstream to spawn?

No. They will die in the Little White Salmon River of disease and heat stress, without spawning.⁴

¹ See NOAA Fisheries, [2015 Adult Sockeye Salmon Passage Report](#), p. 25 (2016).

² U.S. EPA, [Temperature Total Maximum Daily Load for the Columbia and Lower Snake Rivers](#), pp. 47–50 (May 18, 2020) (Columns E and F in Tables 6-6 through 6-9 show the heat pollution caused by dams individually and cumulatively during the summer and fall.).

³ *Id.* at 70 (explaining that climate change has already caused water temperature increases of 1 to 2 °C in the Columbia and Snake rivers).

⁴ See U.S. EPA, [Columbia River Cold Water Refuges Plan](#), p. 34 (2021) (explaining that sockeye do not successfully use cold water refuges).

Is this a one-time, freak occurrence?

No. In 2015, when roughly 250,000 sockeye died in the Columbia and Snake rivers because of hot water, sockeye also sought refuge and died in the Little White Salmon River and nearby tributaries.⁵ Scientists predict that fish kills like this will become more common as dams and climate change continue to warm the rivers and likely cause the extinction of Snake River sockeye⁶—unless we address how the dams warm the Columbia and Snake rivers.

Why do these fish look like they have mold on them?

The fuzzy-looking white patches on these sockeye are likely a fungal infection that attacks salmon stressed by hot water.⁷

How many sockeye will die of warm water this year?

It's too soon to tell. Here's what we know: Right now, tens of thousands of sockeye remain in the dangerously warm Columbia and Lower Snake rivers. As the rivers get even hotter in August and September, many of these fish may perish.

For additional information, please contact Miles Johnson, Senior Attorney for Columbia Riverkeeper, at (541) 490-0487 (cell), (541) 436-3625 (office), or miles@columbiariverkeeper.org.

⁵ See Note 1, *supra*.

⁶ Crozier *et al.*, [Snake River sockeye and Chinook salmon in a changing climate: Implications for upstream migration survival during recent extreme and future climates](#), 15 PLoS ONE 9, p.2 (2020) (modeling survival probability of Snake River sockeye assuming water temperatures resulting from dams and future climate conditions).

⁷ See Note 1, *supra*.