

FCRPS Action Agencies

ARMY CORPS OF ENGINEERS • BONNEVILLE POWER ADMINISTRATION • BUREAU OF RECLAMATION



**US Army Corps
of Engineers**®
Northwestern Division

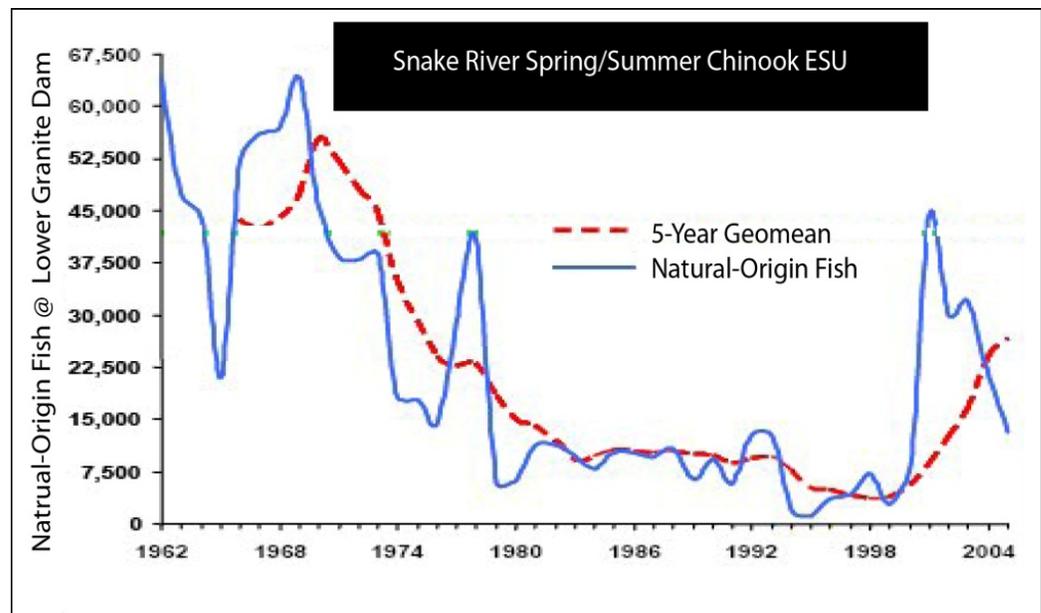
Frequently Asked Questions

Question: Will Columbia River salmon go extinct by 2017?

Response: Based on recent fish returns and trends over time, Columbia River salmon are not expected to go extinct by 2017.

A recent report, entitled “Doomsday Clock,” commissioned by Trout Unlimited and revised in 2001, looked at returning adult fish from one of the seven species in the Columbia River Basin – Snake River spring/summer Chinook salmon. The report considered data from only two of the 28 populations of Snake River spring/summer Chinook—Marsh Creek and Imnaha River—and results for only five years. Modeling results suggested that these two populations would be extinct by 2007 and that the species as a whole would be functionally extinct by 2017.

Since 1990, these two populations have in fact been on an upward trend. As shown below, the species of SR spring/summer Chinook as a whole also is on an upward trend. With aggressive actions to improve their habitat and survival, that trend is likely to continue.



Other Columbia River salmon and steelhead also are showing positive trends. Although historically year-by-year salmon returns show a great deal of volatility, the five-year averages of most listed Columbia River Basin salmon and steelhead species are better than when the fish were first listed under the Endangered Species Act in the 1990s. The combination of improved ocean conditions and a comprehensive approach to improving hydrosystem passage and survival, salmon habitat and hatchery practices is having a positive impact on listed fish.¹

For more information:
www.SalmonRecovery.Gov

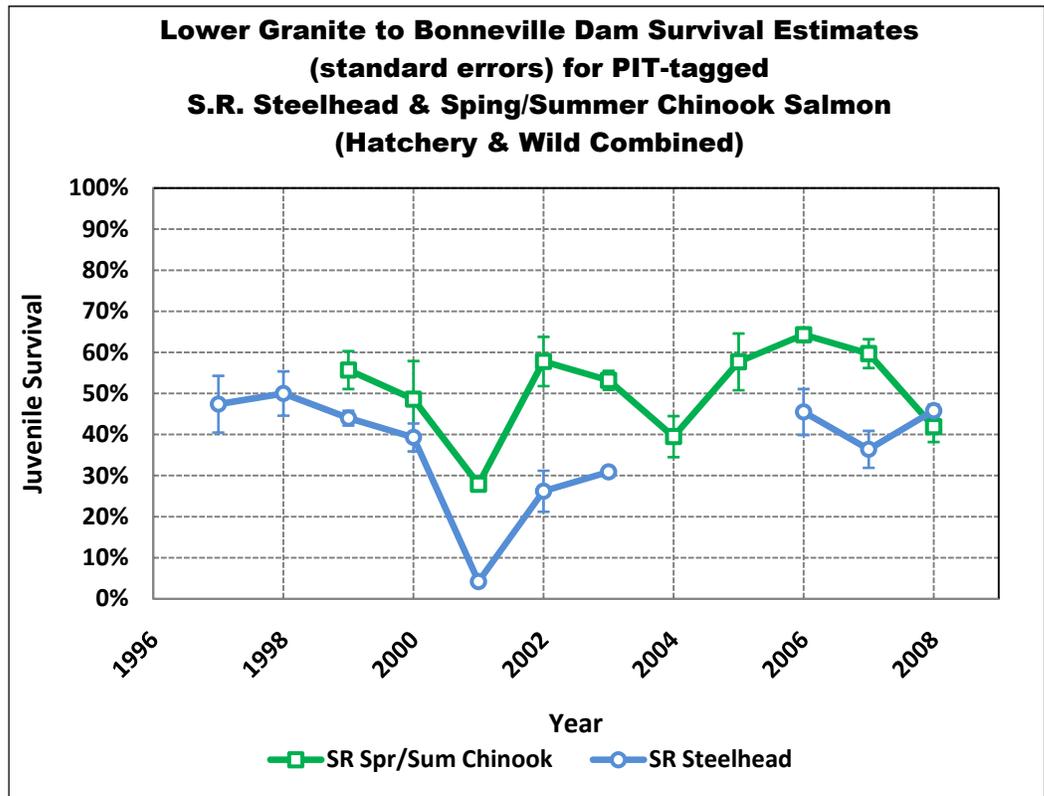
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¹ For a complete set of abundance trends for Columbia River Basin fish, see p. 8–10 of the Executive Summary of the 2008–18 FCRPS Biological Opinion.

Question: Do the FCRPS dams kill 90 percent of juvenile salmon on the way to the ocean?

Response: Natural fish mortality in the rivers and oceans is very high. In free-flowing rivers, fish still face threats from predation in the river and ocean, habitat degradation, and fishing. For every 5,000 salmon eggs laid, two adult fish will return to spawn three to four years later. Scientists have measured 30-percent mortality for hatchery fish released upstream of Lower Granite Dam in the 700 kilometers of free flowing river before they reach the dam.²

Ongoing survival studies show that the mainstem FCRPS dams and reservoirs do not kill 90 percent of juvenile salmon migrating to the ocean. According to recent results, (with the exception of 2001, an extremely poor water year), survival rates for migrating juvenile Snake River spring/summer Chinook through seven dams and reservoirs on the lower Snake and Columbia Rivers have averaged 53 percent (ranging from a low of 40 percent to a high of 64 percent). Snake River steelhead survival has averaged about 40 percent (ranging from a low of 26 percent to a high of 50 percent).³ The table below displays these results.



The 90-percent figure may be a misinterpretation of the Incidental Take Statement (ITS) in NOAA Fisheries' 2008 FCRPS Biological Opinion.⁴ The ITS includes a 90-percent mortality estimate for migrating juveniles under very limited, poor water conditions. In low runoff years (about once in every five years based on modeling of a 70-year water record) though, spill and flow operations are limited because there is limited water in the rivers. To protect the fish, the Corps of Engineers collects over 96 percent of the fish at certain upstream dams and barges them to below Bonneville Dam.

The 90 percent estimate in the ITS is based on experience in 2001, the most recent very poor water year. Most of the migrating fish were transported around the dams. The remaining few fish (about 4 percent) left in the river increased predation from birds and fish, and more significant

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² Source: Northwest Fisheries Science Center.

³ Each year, the Northwest Fisheries Science Center estimates the survival of juvenile Snake River steelhead (since 1997) and spring/summer Chinook salmon (since 1999) migrating between Lower Granite and Bonneville dams.

⁴ NOAA Fisheries FCRPS Biological Opinion, May 2008; Chapter 14, Table 14.2 and 14.3

losses than would have occurred in a normal water year.

In moderate to high runoff years, the ITS estimates that average mortality rates would be about 55–65 percent for Snake River steelhead and sockeye salmon, about 40–45 percent for Snake River spring/summer Chinook salmon, and about 44.6–81.3 percent for Snake River fall Chinook.

Question: Were there once annual salmon runs of 30 million fish in the Columbia River Basin?

Response: A two-year review of historic salmon numbers by the Northwest Power and Conservation Council examined all estimates on record and concluded that run sizes ranged from 10 to 16 million fish prior to development.⁵ This figure is widely accepted and cited in the literature as the most accurate figure. However, the analysis notes that run sizes have always fluctuated widely, depending on river and ocean conditions.

One method for calculating historic run sizes was the calculation of an estimated run size based on the assumption that fish wheels caught a certain percentage of the run. Using this method, one early estimate came up with a figure of about 35 million fish. The Council’s analysis found that the figure was not credible because assumptions of the number of fish caught in fish wheels were unrealistic.

Question 4: Do the Snake River dams block salmon access to pristine high-elevation spawning habitat in Idaho and Oregon?

Response: The four Snake River dams have highly effective adult fish passage facilities that do not block access to spawning habitat. Adult survival, at 98 percent or better per dam, is comparable to survival in a similar stretch of natural river.

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www.SalmonRecovery.Gov**

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⁵ Northwest Power and Conservation Council, “Compilation of information on salmon and steelhead losses in the Columbia River Basin,” March 1986. See at http://www.nwcouncil.org/library/2000/2000-19/TechAppF/losses_part1.pdf