

# The State of the Snake

2018 Update

In 2018 the fish returns at Lower Granite dam are **down for all categories** compared to the 10-year averages of 2017 and 2016. **A total of 55,364 Chinook salmon and 53, 136 steelhead returned to Lower Granite Dam in 2018** (see Table 1). By the end of 2018, only **8,767 Jack Chinook** had crossed Lower Granite. This is 77% below the 10-year average and very bad news for 2019 returns. These precipitous declines were predicted in the 2015 Salmon White Paper<sup>i</sup> which was distributed to Pacific Northwest State representatives, as well as federal agency representatives.

Lower Granite Dam			
	Compared to 10yr Average		
Fish Returns	2016	2017	2018
Spring Chinook	+6%	-56%	-50%
Summer Chinook	-28%	-48%	-58%
Fall Chinook	+6%	-35%	-54%
Sockeye	-21%	-80%	-76%
Steelhead	-42%	-54%	-67%
Wild Steelhead	-47%	-67%	-72%

Data from Columbia Research Basin, <http://www.cbr.washington.edu>

Table 1 Lower Granite Dam Percentage Returns

Five-year reviews by NOAA show *minimal improvement* in the risk-status of ESA-listed salmon and steelhead, despite a billion taxpayer dollars being spent on system improvements. Current NOAA recovery plans are predicted to NOT achieve fish recovery. Pacific Northwest state fisheries reports show that smolt-to-adult ratios have not improved either and still show Snake River fish returns are not meeting criteria for species survival.

**Snake River wild steelhead are on a decline at rates not seen in 20 years.** Adult returns in 2018 will mark the third steepest five-year trend since the 2009-2013 trend. The fourth worst five-year trend will be from 2002-2006 adult counts. *This recent five-year trend is so low that it will hit a trigger point in the 2014 biological opinion (BiOp).* The BiOp states the agencies must implement a solution within 12 months. However, the downward trend is not the only problem; the actual number of wild steelhead is now so low that the only solution or recovery action that can be implemented quick enough to prevent virtual extinction is the breaching alternative in the existing 2002 Environmental Impact Statement for the four Lower Snake River dams.

As stated in both the 2016 and 2017 NOAA Recovery Plans for Snake River Spring/Summer Chinook Salmon & Snake River Steelhead, National Marine Fisheries Service, West Coast Region, “Over \$1 billion has been invested since the mid-1990s in baseline research, development, and testing of prototype improvements, and construction of new facilities and upgrades.” “NMFS estimates that recovery of the Snake River spring/summer Chinook salmon ESU and steelhead DPS, like recovery for most of the ESA-listed Pacific Northwest salmon and steelhead, **could take 50 to 100 years.**” “This recovery plan contains an extensive list of actions to move the ESU and DPS towards viable status; **however, the actions will not get us to recovery.**”

2016 Comparative Survival Study SAR Patterns: Snake and Mid-Columbia



SAR (smolt-to-adult return ratio) is a measure of fish survival, or the percent of smolts that return as spawning adults. The Northwest Power & Conservation Council's (NPCC) goals is **2% for mere survival of the species** and **6% for recovery of the species**, with an average of 4%. Overall, Snake River Chinook and Steelhead SARs have only been above 2% in five of 20 years in recent history (and never above 6%). These results are in spite of increased spill and barging around the dams.

In contrast, Mid-Columbia Chinook and Steelhead are generally meeting the NPCC SAR goals and have SAR ratios 2.3x – 3.4x greater than Snake River wild SARs. Keep in mind that Snake River salmon and steelhead pass over eight dams: four on the Columbia and four on the Snake. Mid-Columbia fish only pass one to four lower Columbia dams. ***If the four lower Snake River dams were removed, Snake River salmon and steelhead would have very similar migration and spawning conditions, which should lead to fish recovery.*** See charts below for trend of SAR's below 1.

Draft Comparative Survival Study 2017 Annual Report by the Fish Passage Center

“If the lower four Snake River dams are breached and the remaining four Columbia dams operate at BiOp spill levels, we predict approximately a **2-3-fold increase in abundance** above that predicted at BiOp spill levels in an impounded system, and up to a **4-fold increase if spill is increased** to the 125% TDG limit. This analysis predicts that higher SARs and long-term abundances can be achieved by reducing powerhouse passage and water transit time, both of which are reduced by increasing spill, and reduced further when the lower four Snake River dams are breached.” (emphasis added)

<sup>1</sup> <https://damsense.org/wp-content/uploads/2014/12/1.Snake-River-Endangered-Salmon-White-Paper-11-4-15.pdf>

