

Orcas and the LSRD



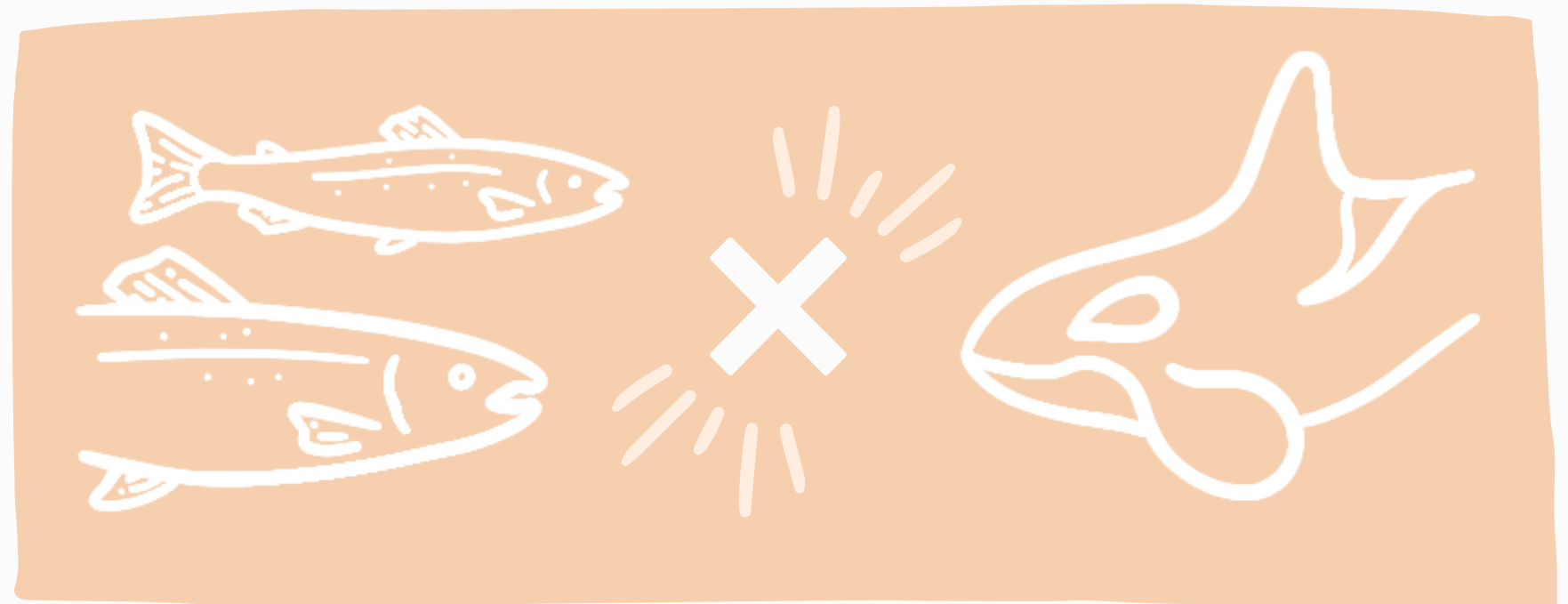
LSRD AND THE SOUTHERN RESIDENT ORCAS

- NOAA listed the Southern Residents as endangered in 2005 when there were 88 orcas. A decade later, there were 81. In 2019 there are 75.
- The SRKW historical population was approximately 140 whales (Species in the Spotlight Report, p. 30.)
- Per the NOAA 2008 recovery plan, the SRKW population must increase by an average 2.3 percent per year for 28 years to be removed from the Endangered Species list. NMFS (2008) Recovery Plan for Southern Resident Killer Whales (*Orcinus orca*), p. v.
- The Southern Resident community of orcas is among the eight most endangered species protected by NOAA, per NOAA's Species in the Spotlight Report, May 2015.
- The Southern Residents live or die based on Chinook salmon abundance.
- Approximately 80% of their diet is Chinook salmon.
- Within the United States, the Columbia/Snake River watershed is the most important source of salmon for Southern Resident orcas
- Over the winter months spring/summer Chinook, due to their high fat content and high nutritional value, are crucially important to Southern Resident orcas.
 1. NOAA's satellite tag research and acoustic recorders deployed on the coast show Southern Residents' presence, centered on the mouth of the Columbia River frequently during the winter and spring months, through April when the Snake River adult spring/summer Chinook are entering the Columbia River.
 2. Prey samples collected by NOAA show Southern Residents eat Columbia and Snake River Chinook.

Important: Toxins remain sequestered in SRKW's blubber if they have sufficient prey.

SNAKE RIVER SALMON ARE THREATENED OR ENDANGERED

- All four Snake River salmon and steelhead runs are listed as endangered or threatened under the Endangered Species Act.
- Salmon are not recovering despite nearly 25 years of litigation and more than \$700 million total spent on Snake River fish passage improvement structures. These improvements were expected to lead to Snake River salmon recovery. They haven't.



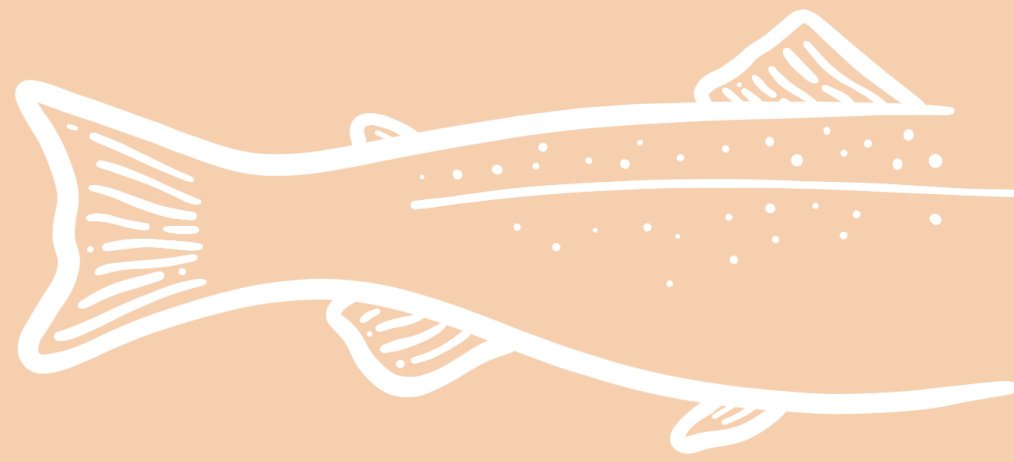
While fall Chinook have returned in large numbers, 80% of spawners are hatchery derived fish. Breaching will recover wild stock because it will expand spawning habitat and will reduce the density dependence that is limiting recovery potential.

- The cost now on a structural improvement is roughly five times more than estimated in the Army Corps of Engineers' 2002 LSR Feasibility Study. These costs would be eliminated with dam breaching.
- In 2018 the Columbia Fish Mitigation Program sunsets. (This is what pays for the improvements.) Then any fish passage improvements come out of the Corps' operations and maintenance budget.
- Survival of wild salmon and steelhead runs requires a minimum 2% smolt-to-adult survival rate (SAR). Recovery of Snake River salmon and steelhead requires a 4%–6% SAR. The overall SARs for Snake River populations of salmon and steelhead are not meeting this goal(1). The SAR for wild Chinook salmon over the past 18 years has averaged .59%. This is not recovery.

- In 2013 NOAA Fisheries acknowledged that Snake River spring/summer Chinook and steelhead runs are not increasing, but instead have been “relatively stable since 1999 with the exception of lower estimates in 2001 and 2004.” In addition, the runs were lower in 2013, 2014, and 2015 due to hotter water and lower flow. The runs have continued to decline.
- In 2015 the Snake River became a killing field for the larger than average salmon runs that were returning to spawn. Due to drought, climate change and the four dams, superheated water temperatures killed 80% of the returning Sockeye salmon and were often lethal to the fall Chinook.

1. Comparative Survival Study of PIT-tagged Spring/Summer/Fall Chinook, Summer Steelhead, and Sockeye, 2014 Annual Report, BPA Contract #19960200, November 2014, p. xxv & Chapter 4; 2014 FCRPS Biological Opinion.

80% of the SRKW diet consists of
**CHINOOK
SALMON**



"The **COLUMBIA/SNAKE RIVER
WATERSHED** is the most important
source of salmon for the **SOUTHERN
RESIDENT ORCAS**"