

Orca and Salmon Recovery Workshop



Thank you for participating in this workshop which was inspired by the following:

The community of endangered Southern Resident killer whales is not recovering. This population is listed as endangered in both the United States and Canada but is still in decline, and the low birth rate is of particular concern. Besides the declining population and low birth rates, researchers and naturalists have also noticed distinct changes in the whale foraging and socialization patterns. Many people believe this population is at a tipping point for their survival.

There is growing public awareness and conversation about the importance to the whales of abundant and healthy Chinook salmon. More people are realizing that if we want to help ensure the whales' survival, that salmon abundance and recovery are key. We are also realizing how complicated that problem is to solve which is all the more reason to continue the discussions. Here are some useful facts about Southern Resident orcas, their relationship to Chinook salmon abundance and current research and recovery efforts. These will help you to be informed leading into the community conversation.

Southern Resident Killer Whale and Salmon Facts

- Southern Resident killer whales experienced an almost 20% decline in the late 1990s. They were listed as endangered under the Species at Risk Act (SARA) in Canada in 2004 and under the U.S. Endangered Species Act (ESA) in 2005.
- Orca Recovery plans for both the U.S. and Canada were completed in 2008. The major threats were listed as prey availability, contaminants and vessel effects.
- Many research and conservation efforts (described in the NOAA Fisheries – 10 years of Research and Conservation link at the end of this document) have been undertaken but the Southern Residents are not recovering and in fact are continuing to decline. The current population size is 78 animals, the lowest number since 1985.
- The various salmon recovery plans and the orca recovery plan in the United States are not formally linked and SRKW prey needs are not currently being accounted for when managing for salmon recovery particularly in regards to harvest management.
- Research from NOAA Fisheries shows that the SRKW show a preference for Chinook salmon and that during the summer months Chinook especially from the Fraser River, make up more than 80% of their diet. Winter diet is still largely unknown but research also suggests that Chinook are very important, as well as Chum and Steelhead. Research shows that Southern Resident orcas need an average of 100 to 300 pounds of salmon per whale per day.
- Research by the Center for Conservation Biology shows that reduced prey availability has a greater effect on SRKW than vessels and that the whales are experiencing high amounts of stress due to lack of food. This research also shows that when prey availability is low, toxins are released from blubber into circulation in the body making the whales vulnerable to adverse health effects.
- Recent research by the Center for Conservation Biology shows that the SRKWs are experiencing high rates of miscarriage at mid-to-late gestation most likely due to nutritional stress.
- SRKW recently experienced the longest documented period without a surviving calf in the population – a span of 25 months until L120 was born in September 2014. Unfortunately this new little calf did not survive long and was missing as of October 17, 2014.
- Southern Residents tend to travel over greater areas and in more complex patterns when food supplies are low.
- Research by NOAA Fisheries shows that survival and birth rates seem to be correlated with coast-wide salmon abundance

- Preliminary data analysis by Reed College graduate Monika Wieland and Reed student Michael Weiss shows a correlation between SRKW birth rates and Fraser River Chinook abundance. Additionally SRKW death rates appear to be correlated with coast-wide Chinook abundance.
- Long Live the Kings and the Pacific Salmon Foundation are currently overseeing a transboundary ‘Salish Sea Marine Survival Project’ to determine what is causing low survival rates of juvenile salmon and steelhead in the Salish Sea.
- In British Columbia there are some populations of Chinook (Okanogan population), Coho (interior Fraser population) and sockeye (Cultus and Sackinaw populations) salmon that are listed as threatened and endangered under COSEWIC (Committee on the Status of Endangered Wildlife in Canada,) an independent body of experts which identifies wildlife species at risk and reports its results to the Canadian government. However none of these salmon populations are currently listed under Canada’s Species at Risk Act, the equivalent to the U.S. Endangered Species Act.
- Salmon from both Washington State and British Columbia are harvested in Alaska and therefore are managed internationally under the Pacific Salmon Treaty between the U.S. and Canada.
- As per research conducted by retired engineer Jane Cogan, a recent Pacific Salmon Commission report (see link below) showed that since 1979 more than 95% of the Chinook salmon caught in southeast Alaska troll fisheries were destined for Oregon coast, Columbia River, Washington coast, Puget Sound, Fraser River, Georgia Strait, West Coast Vancouver Island, and North Central BC rivers. The remaining Chinook (less than 5%) were destined for southeast Alaska rivers. In some years, the southeast Alaska total troll Chinook harvest has exceeded 300,000 Chinook salmon; in lean years the troll harvest has been reduced to about 110,000 Chinook.
- A transboundary independent science panel held a series of workshops in 2011 and 2012 to review salmon harvest and its effect on Southern Resident killer whales. They determined that current fisheries do not likely remove enough salmon to have an influence on the whales’ status due to competition with other salmon predators, the possibility that reduction in salmon would not necessarily be those stocks important to SRKW, and the fact that currently low harvest rates mean limited opportunities for reductions.
- The four lower Snake River dams in the Columbia Basin impede access to more than 5300 miles of prime salmon habitat. Research performed by attorney and San Juan Island resident Sharon Grace reveals 20 years of litigation regarding the lower Snake River dams where the most significant change has been court-ordered ‘spills’ (water sent over the dams to aid young salmon on their migration to the Pacific.)

Recommended Reading:

Southern Residents and Chinook Salmon: an Undeniable Link. Monika Wieland.
www.orcawatcher.com

Southern Resident Killer Whale Project. Jane Cogan
www.whalemuseum.org/pages/publications

NOAA Fisheries – 10 years of Research and Conservation
http://www.nwfsc.noaa.gov/news/features/killer_whale_report/pdfs/bigreport62514.pdf

Salish Sea Marine Survival Project
www.marinesurvivalproject.com

Pacific Salmon Commission 2013 Exploitation Rate
[http://www.psc.org/pubs/TCCHINOOK\(14\)-1_V2.pdf](http://www.psc.org/pubs/TCCHINOOK(14)-1_V2.pdf) Page 72

Columbia Basin Salmon. Sharon Grace
<http://whalemuseum.org/pages/publications>