

Orca and Salmon Recovery Workshop



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.

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 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.
- Research 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 calf did not survive long and is listed by the Center for Whale Research as deceased.
- 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
- 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.
- 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.

Recommended Reading:

(more documents will be added to The Whale Museum website at whalemuseum.org/pages/publications as they become available)

Recovery Strategy for the Northern and Southern Resident Killer Whales in Canada. 2008
whalemuseum.org/pages/publications

Recovery Plan for Southern Resident Killer Whales (United States). 2008
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

DFO Salmonid Enhancement Program
<http://www.pac.dfo-mpo.gc.ca/sep-pmvs/index-eng.html>

The Effects of Salmon Fisheries on Southern Resident Killer Whales. Final Report of the Independent Science Panel. 2012.
whalemuseum.org/pages/publications

Relative Importance of Chinook Salmon Abundance on Resident Killer Whale Population Growth and Viability. Velez-Espino et al. 2014.
whalemuseum.org/pages/publications

Comparative Demography and Viability of Northeastern Pacific Resident Killer Whale Populations at Risk. Velez-Espino et al. 2014.
whalemuseum.org/pages/publications