

# Protecting predator and prey when both are in trouble

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When both a predator and its prey are conservationally at risk, it can be difficult to find the right balance of ecosystem management to sustain and protect both.

Such is the case for a particular population of orcas called southern resident [killer whales](#) and their prey, Chinook salmon, off the coast of Washington State and British Columbia, but a new detailed model of the two species may provide some guidance about what must be done to conserve both.

The study, reported in the Nov. 9 issue of the online journal [PLoS ONE](#), led by Rob Williams of the University of Washington in Seattle, and University of British Columbia, finds that [salmon populations](#) must significantly increase to sustain the hopeful growth of the southern resident killer [whale population](#).

In 2009, there were 87 southern resident killer whales. The researchers calculate that this relatively small population likely consumes 12-23% of the approximately 300,000 Chinook salmon, which is a substantial portion for the at-risk fish. This amount increases 42% for a mother nursing her calf. If the killer whale population grows – for example, to 155 individuals by 2029, as projected by one recovery scenario – that percent will only increase.

"Together, these icons of the Pacific Northwest serve as focal points for discussions about the capacity of an ecosystem to support predator and

prey, both of which are culturally, ecologically and economically important", says Dr. Williams.

**More information:** Williams R, Krkos̆ek M, Ashe E, Branch TA, Clark S, et al. (2011) Competing Conservation Objectives for Predators and Prey: Estimating Killer Whale Prey Requirements for Chinook Salmon. *PLoS ONE* 6(11): e26738. [doi:10.1371/journal.pone.0026738](https://doi.org/10.1371/journal.pone.0026738)

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