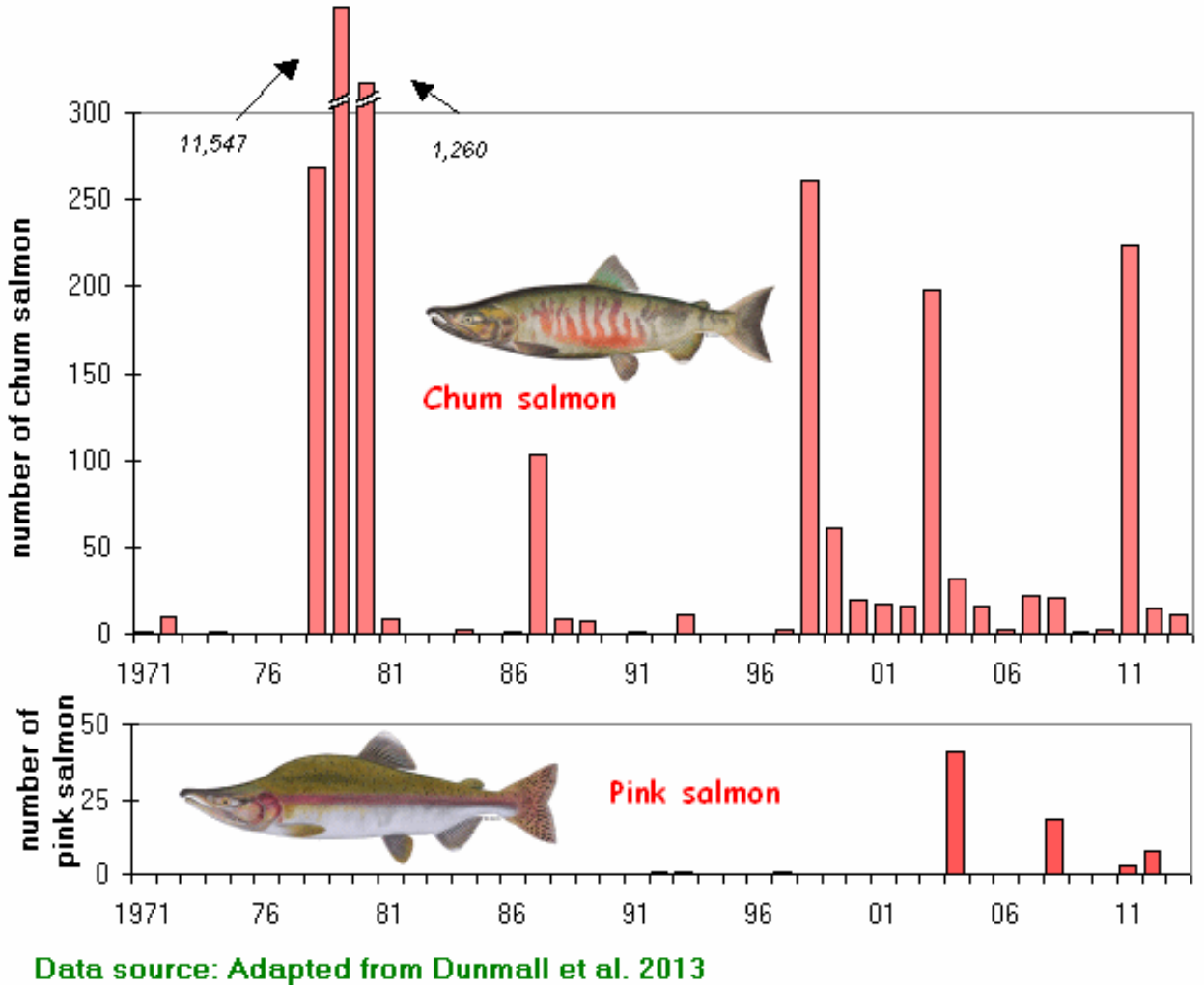
Arctic Salmon: Pacific salmon in the Canadian Western Arctic



Data source: Adapted from Dunmall et al. 2013

What is happening?

- Each of the 5 species of Pacific salmon have been reported in the Arctic. This graph shows the harvest of the two most common species, Chum Salmon and Pink Salmon. Sockeye, Chinook and Coho salmon are rarely caught.
- Chum Salmon have been harvested in the Mackenzie River system for many years. The harvest numbers are often low. However, the number of years when many Chum Salmon are harvested in high numbers, called "exceptional years", are becoming more frequent.
- The number of communities harvesting Chum Salmon is also increasing. Chum Salmon have now been found in most of the communities along the entire Mackenzie River system, including the Delta, and many of its major tributaries such as the Peel, Liard and Slave rivers
- Very few Pink Salmon were harvested in the Canadian Arctic until recently. Now, they are appearing in higher abundances in even-numbered years (i.e., 2008, 2012) and in more

places.

Why is it happening?

- Chum Salmon are suspected to spawn in the Canadian Arctic and populations in the Mackenzie River system may be expanding. It is likely that Chum Salmon are coming in from other places such as Alaska.
- Usually Pacific salmon return to their birthplace to spawn but sometimes they wander to new places or get "lost". Pink Salmon, especially, are known to explore and this is perhaps why we are seeing more Pink Salmon appearing in subsistence harvest records in the Canadian Arctic.

Why is it important?

- The appearance of Pacific salmon in unusual places and in higher abundances may indicate changes in the rivers or the oceans. Pacific salmon may interact with other similar fish such as Dolly Varden, Arctic Char and Bull Trout, in freshwater or the ocean and it is important to identify the impacts that may result.

Technical Notes

- This graph was adapted from Dunmall, K.M., J.D. Reist, E.C. Carmack, J.A. Babaluk, M.P. Heide-Jørgensen, and M.F. Docker. (2013). Pacific Salmon in the Arctic: Harbingers of Recent Changes. In F.J. Mueter, D.M.S. Dickson, H.P. Huntington, J.R. Irvine, E.A. Logerwell, S.A. MacLean, L.T. Quakenbush, and C. Rosa, editors. Responses of Arctic Marine Ecosystems to Climate Change. Proceedings for the 28th Lowell Wakefield Fisheries Symposium. Alaska Sea Grant, University of Alaska, Fairbanks.
- Karen Dunmall, a PhD student at the University of Manitoba, works in collaboration with the Department of Fisheries and Oceans as well as communities to try and gather more information on salmon movements and potential habitat. She expanded on a Pacific Salmon Monitoring Project that was started by the Department of Fisheries and Oceans in 2000, based on community reports of increased salmon harvest. More information about this project can be found at the Arctic Salmon web site or Facebook site..
- Salmon illustrations by P. Vecsei, ©DFO.

See also:

- Salmon in the Porcupine River System
- Peel River Fish

Data added: March 26, 2014.