

Perspectives on Pacific salmon expanding across the Canadian Arctic

Jody Illasiak¹, JD Storr², Michelle Gruben², Karen Dunmall³

¹ Paulatuk Hunters and Trappers Committee, Paulatuk, Northwest Territories

² Aklavik Hunters and Trappers Committee, Aklavik, Northwest Territories

³ Fisheries and Oceans Canada, Winnipeg, Manitoba

Image credit: K. Dunmall

Collaborative projects:

Co-Authors: Community harvesters, Community members, The Arctic Salmon Network, DFO scientists, Academic scientists, Agency scientists, Territorial scientists, Alaskan scientists



Fisheries and Oceans
Canada
Pêches et Océans
Canada



Coppermine River, Nunavut

Orientation



Image credit: NASA



Image credit: K. Dunmall

Aklavik, Northwest Territories



Image credit: K. Dunmall

Paulatuk, Northwest Territories

History of salmon: Paulatuk



Hornaday River, near Paulatuk,
Northwest Territories

Image credit: K. Dunmall

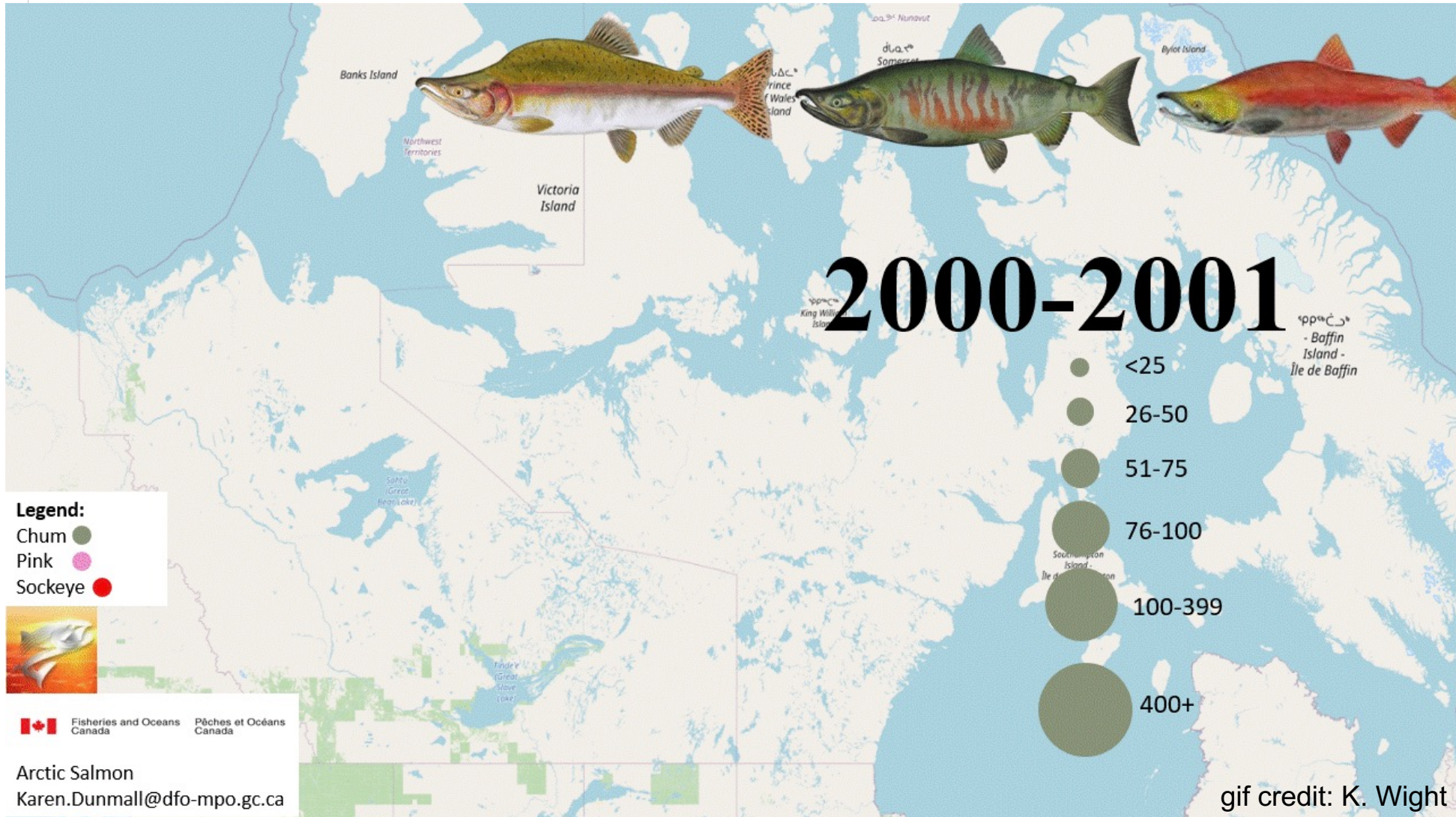
History of salmon: Aklavik



Mackenzie River Delta near Aklavik,
Northwest Territories

Arctic Salmon

Community-led monitoring of Arctic fish biodiversity change

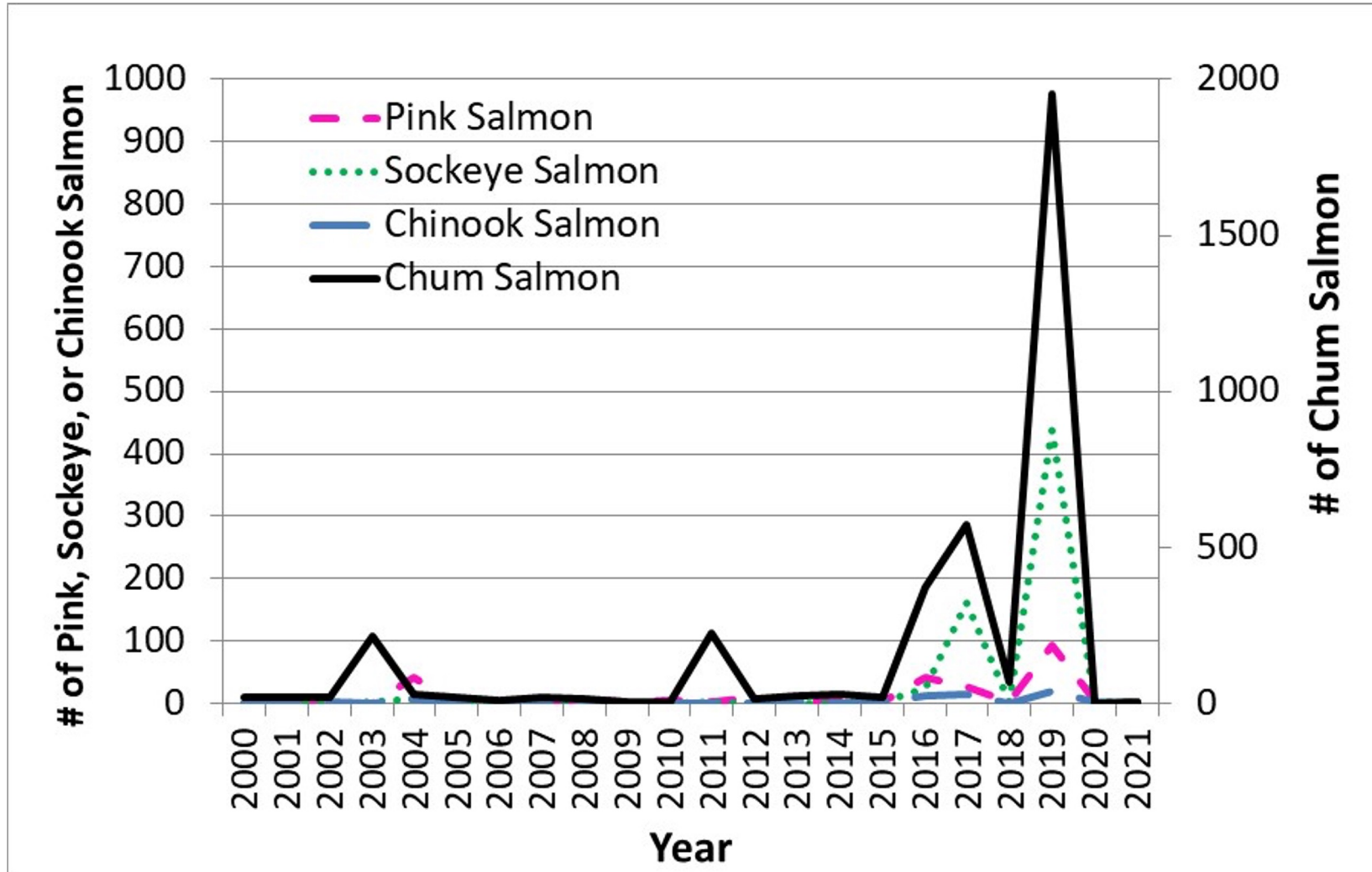


Arctic Salmon
A community-based project that monitors biodiversity change of fish in subsistence harvests across the Canadian Arctic

Occurrences and relative abundance of chum, sockeye, and pink salmon provided to Arctic Salmon from 2000 to 2021 across the Northwest Territories and Nunavut.

Dunmall et al. 2013; 2018; 2021; McNicholl et al. 2021

Arctic Salmon



Total number of salmon provided to Arctic Salmon from 2000 to 2021 across the Northwest Territories and Nunavut.

Research is guided by community-driven questions

Will salmon compete with our char?

March 2016, Air Temperature -37°C
Rat River, Yukon
Dolly Varden spawning habitat



Research is guided by community-driven questions

Will salmon affect our char?

Shingle Point, Yukon, July 2019



Arctic Salmon



Indigenous Knowledge is key to understanding changing salmon and changing ecosystems

Working together, everyone contributes a piece of the story.



ARTICLE

Inuvialuit knowledge of Pacific salmon range expansion in the western Canadian Arctic

Zander Chila, Karen M. Dunmall, Tracey A. Proverbs, Trevor C. Lantz, Aklavik Hunters and Trappers Committee, Inuvik Hunters and Trappers Committee, Sachs Harbour Hunters and Trappers Committee, Olokhtomiut Hunters and Trappers Committee, and Paulatuk Hunters and Trappers Committee

Chila et al. 2021. CJFAS



RAPID COMMUNICATION

First juvenile chum salmon confirms successful reproduction for Pacific salmon in the North American Arctic

Karen M. Dunmall, Darcy G. McNicholl, Christian E. Zimmerman, Sara E. Gilk-Baumer, Sean Burrell, and Vanessa R. von Biela

Dunmall et al. 2022. CJFAS

Anim. Migr. 2021; 8:74–83

DE GRUYTER

Research Article

Darcy G. McNicholl, Les N. Harris, Tracey Loewen, Peter May, Lilian Tran, Russell Akeeagok, Kevin Methuen, Christopher Lewis, Rebecca Jeppesen, Steve Illasiak, Brandon Green, Joseph Koovaluk, Zebedee Annahatak, John Kapakatoak, Nathan Kaosoni, Benjamin Hainnu, Beverly Maksagak, James D. Reist, and Karen M. Dunmall

Noteworthy occurrences among six marine species documented with community engagement in the Canadian Arctic

McNicholl et al. 2021. Anim. Migr.

Summary

- Salmon are increasing in the Canadian Arctic
- Increasing salmon is concerning to many people
- These salmon are indicating changing ecosystems
- Salmon is only one example of change
- Climate change is affecting everyday living



Mackenzie River Delta, NWT

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- Sahtu Renewable Resources Board
- Gwich'in Renewable Resources Board
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Mackenzie River