

Perspectives on Pacific salmon expanding across the Canadian Arctic

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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



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Coppermine River, Nunavut

Orientation



History of salmon: Paulatuk



Hornaday River, near Paulatuk,
Northwest Territories

Image credit: K. Dunmall

History of salmon: Aklavik



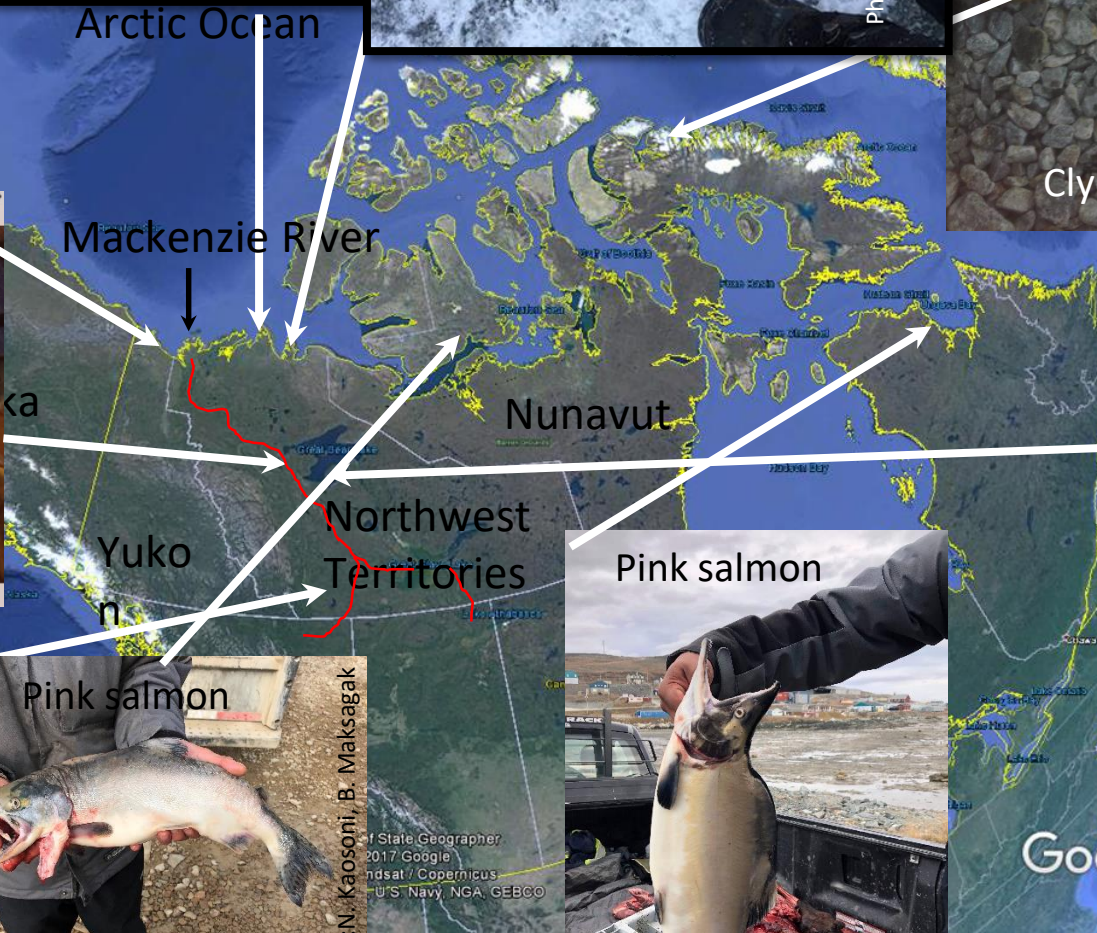
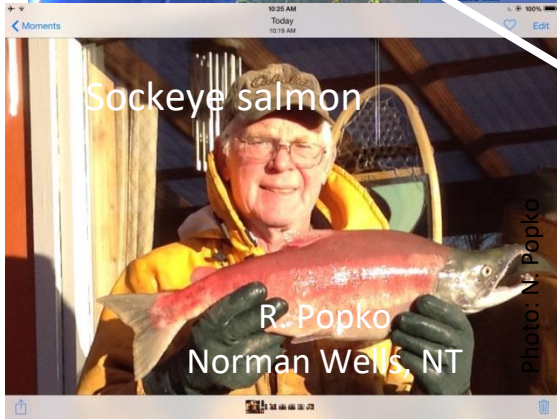
Mackenzie River Delta near Aklavik,
Northwest Territories



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Arctic Salmon

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



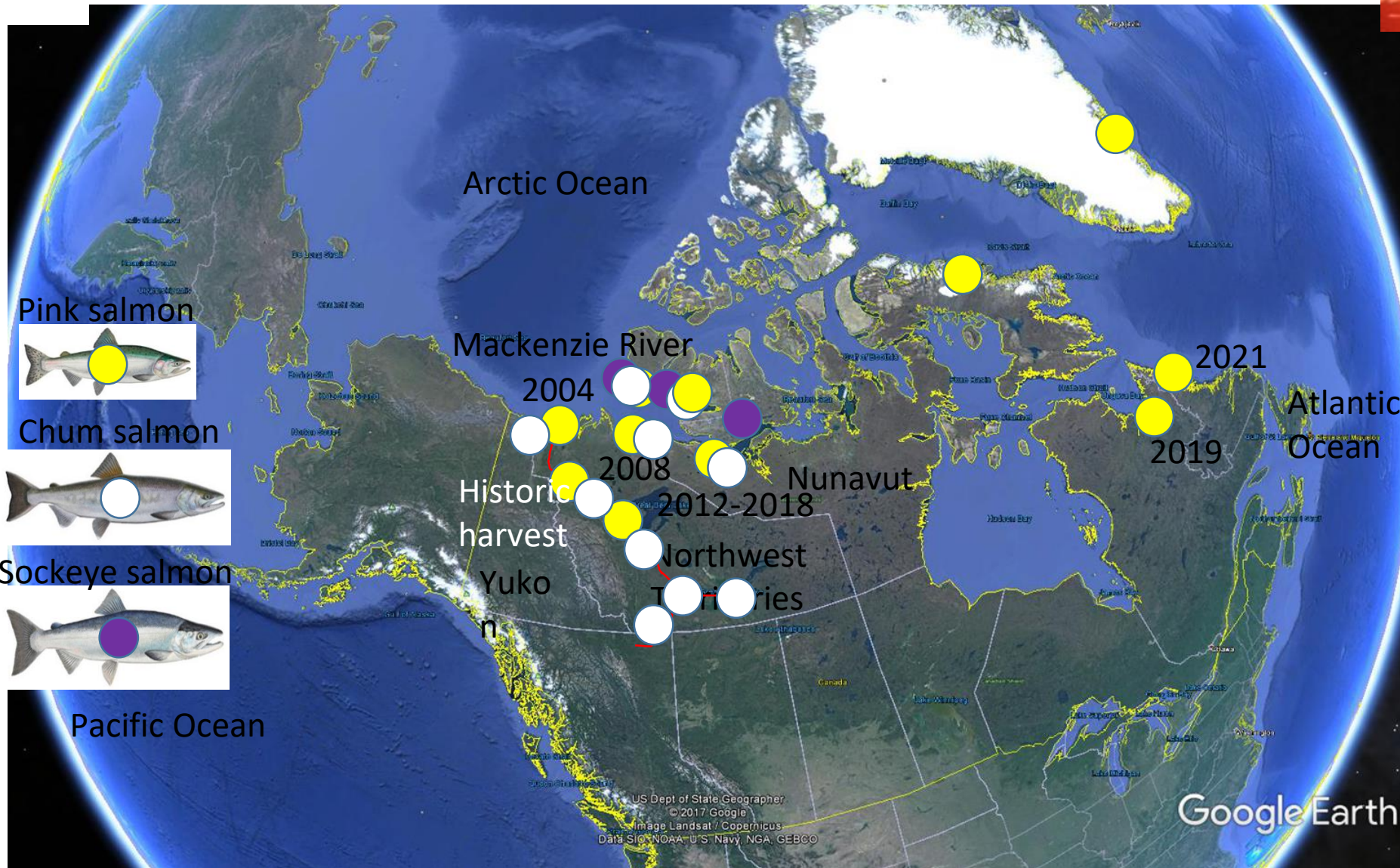


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Arctic Salmon:

Community-led monitoring of
Arctic fish biodiversity change

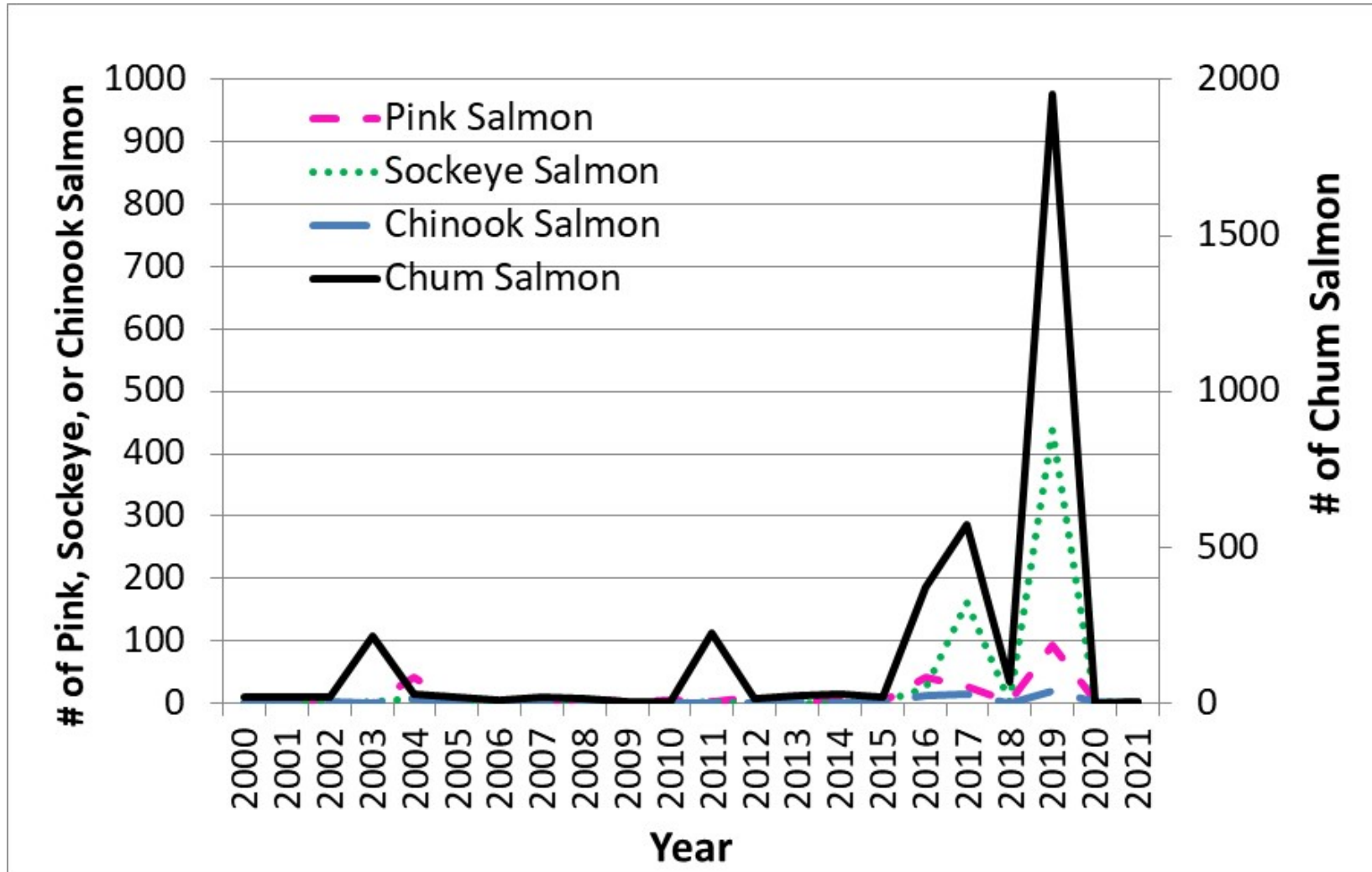


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Arctic Salmon



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

Photo: K. Dunmall

Research is guided by community-driven questions



Photo: Colin Gallagher (DFO)

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. 2022. 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 Burril, 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, Lillian 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

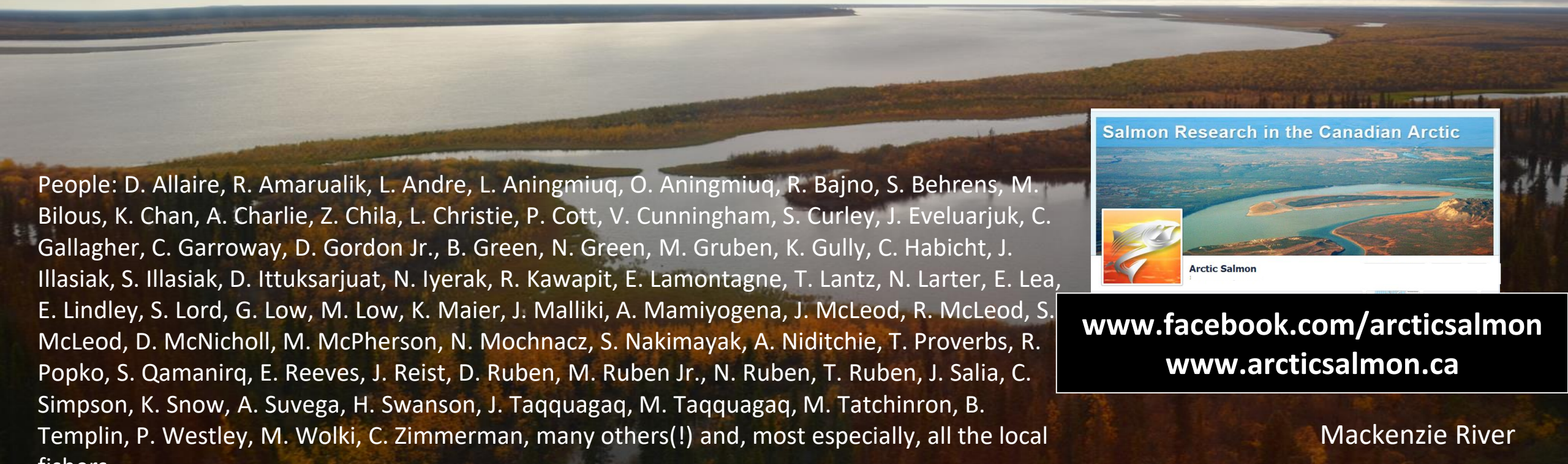
Acknowledgements

Funding Sources:

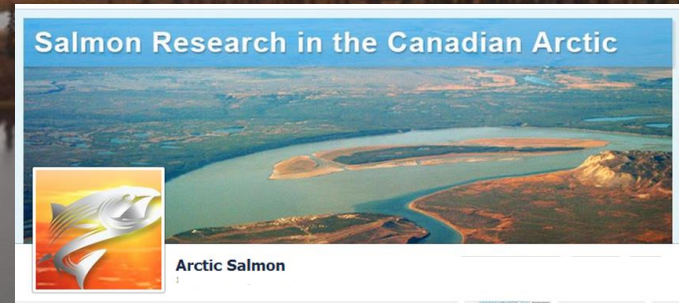
- Fisheries and Oceans Canada
- Beaufort Sea Regional Ecosystem Assessment
- Cumulative Impacts Monitoring Program (GNWT)
- University of Manitoba
- Polar Continental Shelf Program
- Fisheries Joint Management Committee
- Gwich'in Land and Water Use Planning Board
- Sahtu Renewable Resources Board
- Gwich'in Renewable Resources Board
- Liber Ero Fellowship Program
- Garfield Weston Foundation
- NSERC

Collaborators:

- Fisheries and Oceans Canada
- Alaska Department of Fish and Game
- Government of NWT, Parks Canada
- Joint Secretariat
- Gwich'in Renewable Resources Board
- Sahtu Renewable Resources Board
- Fisheries Joint Management Committee
- Dehcho AAROM Program
- Most Renewable Resource Committees, Hunters & Trappers Committees, Hunters & Trappers Organizations & Band Offices in the Northwest Territories and Nunavut



People: D. Allaire, R. Amarualik, L. Andre, L. Aningmiuq, O. Aningmiuq, R. Bajno, S. Behrens, M. Bilous, K. Chan, A. Charlie, Z. Chila, L. Christie, P. Cott, V. Cunningham, S. Curley, J. Eveluarjuk, C. Gallagher, C. Garroway, D. Gordon Jr., B. Green, N. Green, M. Gruben, K. Gully, C. Habicht, J. Illasiak, S. Illasiak, D. Ittuksarjuat, N. Iyerak, R. Kawapit, E. Lamontagne, T. Lantz, N. Larter, E. Lea, E. Lindley, S. Lord, G. Low, M. Low, K. Maier, J. Malliki, A. Mamiyogena, J. McLeod, R. McLeod, S. McLeod, D. McNicholl, M. McPherson, N. Mochnacz, S. Nakimayak, A. Niditchie, T. Proverbs, R. Popko, S. Qamanirq, E. Reeves, J. Reist, D. Ruben, M. Ruben Jr., N. Ruben, T. Ruben, J. Salia, C. Simpson, K. Snow, A. Suvega, H. Swanson, J. Taquagaq, M. Taquagaq, M. Tatchinron, B. Templin, P. Westley, M. Wolki, C. Zimmerman, many others(!) and, most especially, all the local fishers



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Mackenzie River