A Compilation and Meta-analysis of Salmon Diet Data in the North Pacific Ocean

Caroline Graham¹,², Evgeny A. Pakhomov¹,², and Brian P. V. Hunt¹,²,³

¹Institute for the Oceans and Fisheries, University of British Columbia, 2202 Main Mall, Vancouver, British Columbia V6T 1Z4, Canada
²Department of Earth, Ocean, and Atmospheric Sciences, University of British Columbia, 2207 Main Mall, Vancouver, British Columbia V6T 1Z4, Canada
³Hakai Institute, PO Box 25039, Campbell River, British Columbia V9W 0B7, Canada

What can diet reveal about the understudied marine phase of the salmon life cycle?

- The availability of nutritious food is an important factor affecting marine survival
- Diet data can give insight into food webs, potential competition, salmon health, and changing ocean conditions
- Historic data has been collected sporadically and using variable methods, making it difficult to examine large-scale spatial and temporal dynamics
- Studying salmon in the ocean is costly and logistically challenging, so we need to find alternatives

Objectives

I) Build an open-access database for Pacific salmon diet data from the marine environment
II) Determine the key components of salmon species diets in different regions of the North Pacific Ocean and whether there is, and the extent of, trophic niche overlap between species

Systematic Review of Literature

Building a Database

Diet Metrics:

Fig. 2. The number of samples for each diet metric that have been added to the database. Bars are color coded based on the type of data that will be combined to conduct analyses.

Spatial Distribution:

Fig. 3. The distribution of sampling stations where salmon diet information has been collected and added to the database.

A Tool for the Future

- This database will become an open-access resource
- If you have input and ideas, we would love to hear from you!
- Please talk to me (Caroline) in person, or contact me via email: c.graham@oceans.ubc.ca. Thank you!

Acknowledgements

We would like to acknowledge Marina Espinasse for her hard work on compiling the initial database. Thank you to the Ambrose Monell Foundation and the G. Unger Foundation for providing funding. Finally, thank you to the Pelagic Ecosystems Lab and the University of British Columbia for supporting this research project.