CAITLIN N. MILLAR

Vancouver
British Columbia

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SUMMARY OF SKILLS

Programming

- Significant experience using R and MatLab as shown through considerable project work
- Intermediate experience using ADMB, Maple and Netlogo
- *Other:* Microsoft Excel and Access

Applied

- Identification and sampling of Pacific salmon.
- Coordination of sampling to contribute to in-season estimates of run size and stock composition of Fraser River sockeye
- Management of large sets of complex data

Knowledge

- Statistical methods including maximum likelihood
- Stock assessment modeling and techniques including stock and recruitment analysis, statistical catch at age models, and management strategy evaluation

Non-Technical

- Strong written and verbal communication skills
- Excellent organizational abilities.
- Experience writing technical reports and academic papers
- Quick learner with a curiosity to explore new approaches

RELEVANT EXPERIENCE

Discourse Media **Present**

Independent Contractor

- Contributing to a digital journalism project designed to inform the general public about the transit referendum in the Greater Vancouver Regional District.
- Head of the data analysis and visualization team.

Pacific Salmon Commission **2014**

Assistant Sampling Coordinator

- Temporary fulltime position assisting the coordination of in-season sampling of sockeye salmon.
- Collected biological data and samples at fish plants and onboard test fisheries.
- Tracked samples and managed their shipment and delivery. Maintained records of sampling activity.
- Obtained test fishery data and updated Access database with daily catch, bycatch and effort estimates.

Fisheries and Oceans Canada (DFO) and Ocean Health Index **2012 – 2014**

Independent Contractor

- Identified the pathways of effects to ecologically valued ecosystem components for the Pacific North Coast Integrated Management Area (PNCIMA) as part of the Level 1 Risk Assessment for PNCIMA with Fisheries and Oceans Canada.
- Performed a literature review on Index Number Theory, and assessed how this methodology may be applied to ecological indices for Fisheries and Oceans Canada.
- Aggregated a large set of fisheries data as part of the Ocean Health Index measuring the state of the ocean globally.

J.O. Thomas and Associates **2013 – 2014**

Fisheries Monitoring Program - Dockside Observer

- Casual work dockside observing for pink salmon and Pacific herring fisheries in British Columbia.
- Completed training workshop on salmon identification, and the Pacific salmon fishery.
- Designated dockside observer for Pacific herring fishery.

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RELEVANT EXPERIENCE CONT.

University of British Columbia, Biodiversity Research Centre **2011 – 2013**

Assistant Program Coordinator

- Coordinated the Biodiversity Research: Integrated Training and Education Internship Program
- Facilitated the application process for student and BRITE partner organization internships.
- Administered clerical services and developed organizational abilities.

PROJECT EXPERIENCE

Indicator of Declining Abundance

Simulated a metapopulation of sockeye salmon to observe how the aggregation of information affects indicators of declining abundance; this was done by performing a power analysis in R.

Ocean Health Index

Considered the mathematical properties of eight generic aggregation methods, and further explored the aggregate behavior of these aggregation methods as they apply to a case study of the food provision goal of the Ocean Health Index. This project borrows tools from Index Number Theory - an econometric approach to the aggregation of price and quantity data into indices (e.g., consumer price index). This project used R and the ggplot package for analysis and visualizations.

Uncertainty Management

Quantitatively analyzed the affects of cumulative impacts in managed populations using MatLab. In particular, I looked at the ecological consequences of knowledge mismatches in a fishery system.

Management Strategy Evaluation

Performed a MSE using simulated data produced from a catch-at-age model based on data collected from the Pacific herring fishery on the BC coast. We evaluated the effects of changes to survey frequency and harvest control rules using the *mse*R ADMB package developed by S. Cox and R. Kronlund. I participated as a teaching assistant at a DFO Herring Management Strategy Evaluation Workshop showing managers model simulation results.

EDUCATION

Simon Fraser University **2012 –2015**

Master's of Resource and Environmental Management
GPA: 4.0

The University of British Columbia **2005 - 2011**

Bachelor of Science – Integrated Sciences (Mathematics, Conservation Biology and Policy)
GPA: 3.8 (last 60 credits)

AWARDS

- Finalist for a Knight Foundation International Data Journalism Award **2015**
- NSERC Alexander Graham Bell Canada Graduate Scholarship (CGS-M) **2013**
- Graduate Fellowship, Simon Fraser University **2012**
- Special Graduate Entrance Scholarship, Simon Fraser University **2012**
- NSERC Undergraduate Student Research Award **2011**
- McFarlane-Karp Scholarship in Arts, University of British Columbia **2005**

OTHER QUALIFICATIONS

- Standard First Aid with CPR-C and AED (May 2014)
- WorkSafe BC Occupational First Aid Level 1 (May 2014)