



Postdoctoral research opportunity investigating patterns in dissolved oxygen and temperature dynamics within and across watersheds as diagnostics of habitat vulnerability

Government of Canada Postdoctoral Research Program

Fisheries and Oceans Canada (DFO) is seeking an enthusiastic, team oriented, and self-motivated Postdoctoral Fellow to lead a research project studying large-scale patterns of dissolved oxygen and temperature in freshwater ecosystems. The successful candidate will work closely with Emma Hodgson, Sean Naman and Douglas Braun from DFO Science. They will also interact regularly with members from the steering committee including partners from the Secwepemc Fisheries Commission, Province of British Columbia, Institut National de la Recherche Scientifique, National Oceanic and Atmospheric Administration, and DFO management in the Fish and Fish Habitat Protection Program.

Dissolved oxygen (DO) and temperature are critical determinants of aquatic life, and yet in freshwater ecosystems they are shifting towards more harmful levels as a result of human activities. Under stressful conditions, they can exert cumulative pressures on fish and their ecosystems and while they are frequently studied in individual habitats, a substantial knowledge gap remains of their paired conditions across habitats and watersheds. The overall project goal is to develop a predictive model of habitat vulnerability from the cumulative effects of low-DO and high-temperature. It will pair a large cross-system time series analysis with a focused analysis on an important salmon watershed in B.C. The work will thus include leading field efforts in the North Thompson watershed, B.C. (a tributary to the Fraser River), advanced statistical analysis of time series data, and coordinating a collaborative group of researchers.



Essential Qualifications

Applicants must have graduated within the last three years with a doctoral degree (PhD) from a recognized post-secondary institution in a field of natural sciences, with a specialization in: ecology, statistics, hydrology, or a related discipline. Candidates must also possess the following experience criteria and key competencies:

- Experience in planning and conducting research.
- Experience in working with a team of researchers and support staff.
- Experience in advanced statistical analysis (time series or other methods) and the R programming language.
- Experience in planning and leading field work in remote settings.

- Valid driver's license.
- Productivity/Recognition: Refers to recognized achievement in the form of authorship and editorship of published or unpublished reports, books, papers, peer-reviewed scientific journals, or other communications resulting from:
 - Research, experimental development, or tasking associated with operational equipment and problems; OR
 - Operational research and scientific analysis; OR
 - Planning, analysis, and evaluation of Canadian and foreign programs in research and development; OR
 - Developmental work leading to the issue of patents, copyrights, or the creation of improved varieties, functions, or designs, and/or recognition by the professional community of the research environment.
- Key Competencies
 - Adaptability
 - Initiative
 - Judgment
 - Teamwork
 - Interactive Communication
 - Other (Please specify)

Asset Qualifications

- Experience coordinating and leading collaborative working groups.
- Experience overseeing students and research assistants/technicians.
- Experience with R Shiny.

Who Can Apply: Canadians and non-Canadians. Preference will be given to veterans, followed by Canadian citizens/permanent residents. We are committed to employment equity and encourage applications from women, visible minorities, Indigenous people, and persons with disabilities.

Other Details: The position is based out of DFO's Cultus Lake Laboratory, British Columbia with field work in the North Thompson watershed. Remote work options for part of the time can be discussed.

The current salary range for a SE-RES-01 Research Scientist is: \$60,333 to \$81,758. This will be a temporary position, approximately 1-2.5 years in length.

Contact: For more information, candidates can contact Dr. Emma Hodgson (emma.hodgson@dfo-mpo.gc.ca). Interested candidates should submit their application through the Canadian Government [Postdoctoral Research Program](#) and notify Dr. Emma Hodgson by February 21st, 2022 of their submission.