



Characterizing range shifts in British Columbia groundfish species in response to local climate velocities

Natural Resources Canada Postdoctoral Research Program

Fisheries and Oceans Canada (DFO) is seeking a Postdoctoral Fellow to lead a research project on British Columbia groundfish range shifts in response to local climate velocities. The Principal Investigator on the project is [Sean Anderson](#) (DFO Pacific Biological Station [PBS]). Key collaborators include Karen Hunter, [Andrew Edwards](#), [Robyn Forrest](#), and Greg Workman (DFO PBS); [Eric Ward](#) (NOAA Northwest Fisheries Science Centre); and [Brendan Connors](#) (DFO Institute of Ocean Sciences).

Project overview: This project will characterize the effects of a changing climate in Canada's Pacific waters on the habitat ranges of groundfish species identified as being of commercial and/or conservation importance. Range shifts in response to climate change are non-uniform — some species may expand their range, some may shift northward or deeper to locate suitable conditions, and others may have a range reduction or expansion. Therefore, it is critical to know how species' distributions are changing, and which species are not keeping pace with local climate velocities and may therefore be potentially losing suitable habitat. Using spatiotemporal modelling of trawl survey data, the project will: (1) identify latitudinal shifts, depth shifts, and changes to range size for BC groundfish species through time; and (2) investigate whether these trends track and are keeping pace with local velocities of temperature, dissolved oxygen, and salinity. Results from this modeling will be used to inform stock assessments and identify the species that may be the most sensitive to climate change. While the focus of the position is on the above research, the position will afford the opportunity for motivated individuals to lead or contribute to other research on fish population ecology and management.

Essential asset qualifications: Applicants must have graduated from a PhD in fisheries science, ecology, statistics, or a related discipline within the past three years and have demonstrated expertise in statistical modelling and the R programming language. Prior experience with spatiotemporal modelling, Bayesian data analysis, and reproducible research would be an asset. Successful candidates will be self-motivated and have a proven track record of publishing their research in peer-reviewed journals. The position is available for candidates of all nationalities but those who are not Canadian citizens or permanent residents of Canada must satisfy Canadian immigration requirements.

Location: Pacific Biological Station, Nanaimo, British Columbia. The west coast of Canada, and Vancouver Island in particular, is well known for its rainforests, beaches, and mountains. It is a destination for kayaking, hiking, surfing, skiing, diving, biking, and camping.

Funding: This fellowship is available to start between now and mid-to-late fall 2018 and will be completed by March 2020 with the possibility of extension. Funding includes a salary starting at ~\$56,000 CAD/year (see [SE-RES-1 Step 1 and 2 payscale](#)), medical and dental benefits, and travel and equipment support. The [Canadian Government Postdoctoral Research Program](#) is administered by Natural Resources Canada (NRC). We are committed to employment equity and encourage applications from women, visible minorities, aboriginal people, and persons with disabilities.

Contact: Applicants should email a CV and a brief cover letter outlining their interest in the project and their experience and skills to sean.anderson@dfo-mpo.gc.ca. Short-listed applicants will be invited to develop a full application through the Natural Resources Canada system. Applications will be reviewed beginning August 10th, 2018.