# Post-Doctoral Fellows (PDFs)

The EcoGenomics (www.ecogenomicscanada.ca) research group under Principal Investigators Dr. Paul Wilson (Trent University) and Dr. Micheline Manseau (Environment & Climate Change Canada) is recruiting multiple PDFs in support of a nation-wide genomics research and monitoring project on caribou. The partners supporting this position include Canadian Wildlife Service (CWS); the Ontario Ministry of Environment, Conservation & Parks (MECP); Ontario Ministry of Natural Resources & Forestry (OMNRF), and other provincial and territorial jurisdictions; Indigenous organizations; industry; and funding agencies such as Genome Canada and NSERC.

The PDF positions will be based out of Peterborough, Ontario at Trent University or Ottawa, Ontario at the National Wildlife Research Centre (Science and Technology, ECCC).

**Different areas of research for PDF recruitment include:**

1. Wildlife conservation, population modelling for individuals with advanced experience in spatial/network analysis, population modelling, or deep learning. These methods will be used to model animal density using fecal DNA-based capture-recapture data along with a range of environmental variables. The research will contribute to 1) our understanding of the environment and its change on caribou population density and 2) the development of best practices for efficient sampling related to factors such as stratification and sample size needed for monitoring caribou density and various genetic indicators.

2. Conservation genomics for use in establishing metrics for large-scale and long-term Genomic Monitoring of caribou through the implementation of sequencing technologies, e.g. high/low coverage genomes, amplicon sequencing and the development of analytical pipelines supporting genomic indicator metrics. Strong genetic, genomic and bioinformatic skills are required. Areas of research focus will include indicators of diversity (e.g. inbreeding, genomic erosion and load) and genetic connectivity.

3. Laboratory-based molecular genomics to implement protocols including processing high- and low-coverage genomes; characterizing a range of informative markers (e.g. SNPs, CNVs, Microhaplotypes); ageing from non-invasive sources; improving DNA extraction protocols through automated processing; protocol development on multiple platforms, e.g. Illumina and Oxford Nanopore MinIon; integration of workflows with an established database and automated scoring platform.

**Education & Experience:** The PDF positions requires a minimum of a PhD with work experience being considered an asset.
**Salary:** $55,000 - $60,000 per year depending on qualifications. Positions to start as soon as possible.

To apply send a cover letter and CV to Dr. Paul Wilson (pawilson@trentu.ca) or Dr. Micheline Manseau (micheline.manseau@ec.gc.ca) by May 17th, 2024. Please note your full name and the job title in the subject line of your email (i.e. First and Last Name – Job Title).



EcoGenomics

Analytical and collaborative genomics for wildlife monitoring