

POSTDOCTORAL RESEARCH SCIENTIST POSITIONS in Connectivity Conservation Science  
**Advancing National-scale Protected Areas Network Connectivity:  
Integrating Functional Connectivity and Climate Change**

The Landscape Ecology Research Group (LERG) at Environment and Climate Change Canada (ECCC) is seeking two postdoctoral research scientists with expertise in spatial connectivity modelling, conservation planning and prioritisation, and global change ecology. ECCC is co-leading the Pathway to Canada Target 1 initiative (<http://www.conservation2020canada.ca/>), which is a national multi-jurisdictional effort aimed at reversing the decline of biodiversity, including research to design and establish effective, resilient, and connected networks of protected areas throughout Canada. Both postdoctoral positions will advance the science and enable the evidence-based design of a connected and resilient network of existing and future networks of protected areas. Postdoctoral fellows will conduct research independently and in collaboration with a larger team, drawing on the expertise of ECCC scientists, academic partners, and other stakeholders.

1. The **Functional Connectivity Postdoctoral Research Scientist** will develop a national-scale functional connectivity analysis approach informed by habitat requirements and dispersal traits of representative sets of species for different areas of the country. Dispersal traits may be informed by genomic methods. This research will build on existing regional-scale methods for selecting representative focal species and analyzing multi-species functional connectivity to identify protected areas and regions where connectivity conservation planning is most needed, and to identify areas important for achieving or maintaining connectivity. This research will also help inform the development and selection of national-scale connectivity indicators. Contact Dr. Josie Hughes at [josie.hughes@canada.ca](mailto:josie.hughes@canada.ca) for more information.

2. The **Climate Connectivity Postdoctoral Research Scientist** will initiate and conduct research on integrating climate change into protected areas network connectivity assessments. Initial work will centre around the development of a framework to identify and prioritise actions aimed at climate-wise connectivity conservation. Additional lines of inquiry may include applying prioritisation of actions to achieve connectivity and protected area network targets across a set of case studies, which vary across the axes of climate change vulnerability and degree of human-modified/natural area intactness. Contact Dr. Ilona Naujokaitis-Lewis at [ilona.naujokaitis-lewis@canada.ca](mailto:ilona.naujokaitis-lewis@canada.ca) for more information.

Successful candidates will be term Federal Government employees, hired as a Scientific Researchers (SE-RES) with their associated benefits. The salary will be determined by the qualifications of the candidate and will range between \$55,870 and \$64,690. The duration of employment will be approximately 19 months (until March 31, 2021). Both positions will be based at the National Wildlife Research Centre located on Carleton University campus in the nation's capital city of Ottawa.

**Application Procedure:** Please apply as soon as possible through the Government of Canada's Postdoctoral Research Program process:

- <https://nrcan-rncan.hiringplatform.ca/6355-postdoctoral-research-program-prp/20673-application-form/en>

**Landscape Ecology Research Group (LERG) Connectivity Working Group Research Scientists:**

- Dr. Josie Hughes: Stochastic landcover change projection models, and modelling the implications of landcover changes for wildlife. Development of modelling and analysis tools to inform the assessment and development of conservation plans. <https://jshughes.org/>

- Dr. Ilona Naujokaitis-Lewis: Impacts of climate change and other stressors on wildlife and landscapes and improving our ability to predict future impacts on biodiversity. Climate change adaptation strategies and conservation planning. <https://inlewis.wordpress.com/>
- Dr. Micheline Manseau: Wildlife landscape genetics, landscape connectivity, population monitoring, phylogenetics, indigenous knowledge. <http://lecol-ck.ca/research-projects/>
- Dr. Darren Pouliot: Remote sensing, machine/deep learning applications, and land surface characterization across a diverse range of Canadian ecosystems. [https://www.researchgate.net/profile/Da\\_Pouliot](https://www.researchgate.net/profile/Da_Pouliot)

## **ESSENTIAL QUALIFICATIONS**

### **Official Language Requirement:**

- English Essential

### **Education:**

- Graduation within the last three years\* with an acceptable doctoral degree from a recognized post-secondary institution in a field of ecology, conservation biology or with a specialization related to the duties of the position
- \*Special consideration may be given to applicants who were unable to apply during the 3-year period due to a significant career interruption or delay.

### **Experience:**

- Experience in planning and conducting research
- Experience in working with a team of researchers and support staff
- Experience with quantitative ecological modelling techniques such as statistical or mechanistic modelling of spatial population dynamics or connectivity
- Experience with optimisation and prioritisation techniques including conservation spatial prioritisation.
- Experience with project management would be an asset.

### **Abilities:**

- Demonstrated ability to plan and conduct high-quality and impactful research
- Demonstrated ability to assemble, process, and analyse large data such as climate and global or national-scale land-use land-cover data.
- Demonstrated use of scientific computing tools (e.g. R, python, Julia, github, etc) for repeatable and transparent analysis.
- Spatial modelling skills: R, QGIS, Google Earth Engine, ARCGIS, etc.

### **Competencies:**

- Adaptability
- Initiative
- Judgement
- Teamwork
- Interactive Communication

### **Condition(s) of Employment:**

- Reliability security clearance

### **Operational Requirements:**

- Willingness and ability to travel (within and/or outside Canada)