

MSc Student Position - Applying genomics technologies for biodiversity discovery in Canadian boreal wetland ecosystems: local community perceptions and opportunities.

Wood Buffalo National Park is Canada's largest national park, and also the second largest protected area on the planet. Straddling the Northwest Territories and Alberta, the park's unique habitats include one of the largest inland delta wetlands complexes in the world - the Peace-Athabasca Delta, a UNESCO World Heritage site which contains two IUCN Ramsar sites of international importance. For all its superlatives and unique status, WBNP is increasingly threatened by encroachment and impacts from a variety of sources, including natural resource extraction industries, hydro-electric dams, agriculture and urbanization and industrialization in the Athabasca River watershed, most notably in the Fort McMurray / oil sands mining and processing area. The area is also under threat from climate warming impacts on water resources. The area is also home to several aboriginal communities who continue to carry out traditional hunting and fishing activities. People in these communities have been tracking changes in their environment using traditional knowledge for thousands of years, however much of this knowledge has yet to be incorporated into Western scientific research or policy and decision making. At the same time, these communities often face challenges adopting or incorporating new technologies into their monitoring and management strategies. As part of a project which is pioneering a completely novel approach to ecosystem biodiversity monitoring using genomics, we seek to work with local communities to see how results from this work compare to traditional knowledge. We would like to study local community perceptions of this new technology to determine how it can be used to complement traditional knowledge and empower volunteer monitoring networks to deliver world-class science to monitor their local ecosystems.

The MSc project is a collaboration between Donald Baird (Canadian Rivers Institute, University of New Brunswick, Fredericton, New Brunswick) and Sarah Rosolen (Aurora Research Institute, Fort Smith, Northwest Territories). The student would be expected to have a strong background in environmental science or environmental studies, as well as some familiarity with social science techniques and approaches for stakeholder analysis. Some background with aboriginal issues/relations would be beneficial.

The student would be registered in the graduate program in the Biology at UNB Fredericton, but would have the opportunity to spend extended periods conducting field work in northern communities associated with the project (Fort Smith, NWT; Fort Resolution, NWT and Fort Chipewyan, AB). The project is a collaborative effort between Environment Canada, Parks Canada, and Aurora Research Institute.

The MSc position is open, and will remain open until it is filled and we encourage applications for a start date from April 1, 2012 onwards. Applications with a CV and a brief description of experience and interests, as well as the names and affiliations of two references, to be sent (email preferred) as soon as possible to:

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