

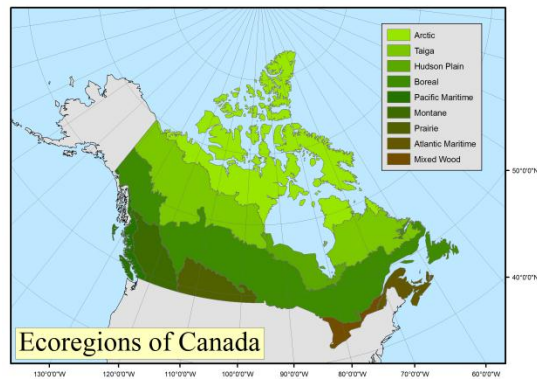
Aquatic Ecosystem Services Graduate Positions Available For 2013 and 2014

We are seeking motivated graduate students with a keen interest in aquatic ecosystem services (AES) for this unique opportunity to participate in a cross Canada network.

Students will improve conservation of AES across Canada by investigating the relationship between AES and environmental stressors.

The focus of Theme Two of the network is Healthy Forests, Healthy Streams and will investigate how forest ecosystem attributes regulate AES.

We are seeking PhD students; however, exceptional MSc students will be considered.



Description:

Starting in 2013, funding is available for 10 graduate students to join a dynamic, interdisciplinary network of researchers who are applying an integrative assessment of spatial and temporal drivers of catchment processes and their role in the sustainability of forest ecosystem health and their associated aquatic ecosystem services. Students will be hosted and receive degrees from the graduate program of one of the partner universities (Western, Guelph, British Columbia (UBC), New Brunswick (UNB), Trent), but will receive value-added experience by interacting with investigators from academia, industry, government offices and non-governmental groups across Canada through meetings, workshops, laboratory exchanges, and collaborative research.

Each thesis project will explore one or more of the challenges facing aquatic ecosystems experiencing various forms of forest disturbance using state-of-the-art techniques, coalescing with other projects to develop knowledge and tools for the management of aquatic ecosystem services in Canada.

PhD Project Descriptions (with Host Institution and inter-institutional mentors):

Research Focus Area 1

An integrative assessment of spatial and temporal drivers of catchment processes and their role in sustainability of forest ecosystem health and their associated aquatic ecosystem services using GIS, remote sensing, statistical and numerical models, and field studies.

Project opportunities include:

1. Physical and chemical indicators of aquatic ecosystem services on forested landscapes
2. Biological indicators of aquatic ecosystem services on forested landscapes
3. Distributed simulation modeling to predict physical, chemical and biological indicators of aquatic ecosystem services from forested landscapes

Start dates for Focus Area 1 projects are between May 2013 and May 2014

Research Focus Area 2

Effects of forest condition on aquatic ecosystem services (past and current watershed experiments) to determine effects of natural and anthropogenic disturbances on aquatic ecosystem services, including organic matter dynamics and associated periphyton and macroinvertebrate communities, as indicators of aquatic biodiversity and ecosystem integrity across Canada. Three positions are available for exploration across three different regions (Western, Central and Eastern Canada). Start dates for Focus Area 2 projects are between May 2013 and May 2014

Research Focus Area 3

Cumulative effects of catchment disturbances on downstream ecosystem services in forested landscapes across Canada. Focus Area 3 students will commence in 2014.

Research Focus Area 4

Addressing uncertainty in provision of aquatic ecosystem services using future scenarios: identifying desired futures for competing social, economic and aquatic ecosystem services outcomes in a changing forest landscape. Focus Area 4 will commence in 2014 centered around the development of scenarios and creation of alternative futures of aquatic ecosystem services to assess economic and ecological risks of policy options under alternative futures.

Research Focus Area 5

Policy implementation that integrates centralized and decentralized approaches to maintain aquatic ecosystem services on forested landscapes. A PDF is sought to develop models of land use change and develop frameworks and criteria for protection/compensation/mitigation options. The PDF is a 2 year position from 2016 to 2017.

Qualified Applicants:

The most qualified applicants will have a solid quantitative background, expertise in spatial analysis and/or statistics and a strong interest in stream and riparian systems, disturbance ecology, and ecosystem services. Applicants must have a MSc degree for entrance into the PhD program, although there may be opportunities for exceptional students to register for the MSc program and convert to the PhD program after their first year of study. For field-based projects, applicants should be willing to work in remote areas, sometimes under inclement conditions. Previous peer-reviewed scientific publications are highly desirable.

Applicants should send a resume, transcripts and cover letter describing research interests to Dr. Irena Creed (Western) at healthy.forests.healthy.aes@gmail.com.