



## MASTERS PROJECT IN FOREST ECOLOGY

**Title :** Evaluating prescribed fire as a restoration strategy for white and red pine forests

**Context and problematic:** Historically, white and red pine forests were common throughout the southern boreal, temperate, and Great Lakes and St. Lawrence forest regions. However, the cover and extent of their range has declined significantly due to changes in fire regime, unsustainable forest management practices, and increased mortality caused by the introduction of pathogens. To reverse this decline and preserve / restore these ecologically and economically important ecosystems, a research program aimed at developing an ecosystem-based management strategy for mixed and pure stands of white pine (*Pinus strobus* L.) and red pine (*Pinus resinosa* Ait.) at the northern limit of their distribution has been proposed.

The natural adaptive capacity of these species to low-intensity surface fires has led to the integration of prescribed burning as a technique to favor white and red pine establishment and persistence across parts of their range, and represents the focus of this master's project as part of the current research program. The objective is to define the parameters that would make it possible to maximize the regeneration and growth of these species using prescribed burning, both in the context of conservation and forest production, while identifying the operational, ecological, and economic limits of this strategy.

**Admissibility requirements:** An undergraduate degree (or equivalent) in forestry, biology, or other related discipline is required. Knowledge in geomatics and the Canadian Forest Fire Danger Rating System is considered an asset.

**Start date :** January 2021.

**Location :** The student will be based at the Forest Research Institute (l'institut de recherche sur les forêts), UQAT, Rouyn-Noranda. Fieldwork will be conducted at various sites spread across the range of white pine and red pine, with a focus on burnt stands (natural fires and prescribed burns) and unburnt (natural or harvested) stands; for example: Petawawa and Temagami in Ontario, as well as Parc Opémican and Parc de la Mauricie in Quebec.

**Funding :** Scholarship of 17 500 \$/year for two years.

**Supervision :** Yves Bergeron (UQAT) & Jonathan Boucher (RNCAN-SCF).

**To apply :** Please send the following information by email to the attention of [jonathan.boucher@canada.ca](mailto:jonathan.boucher@canada.ca) :

- 1) a cover letter describing your research interests and your experience related to the position;
- 2) your curriculum vitae;
- 3) your most recent transcripts;
- 4) the contact details of 2 references.



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