



INTERN IN ANIMAL ECOLOGY WANTED

ARE TAILINGS PONDS AN ALTERNATIVE HABITAT FOR FROGS?

Boreal wetlands, although essential to the maintenance and development of biodiversity, are in decline today. After closure, some mining sites leave behind pools of water or mine tailings, creating new wetlands. The use of these new wetlands by several species of birds and amphibians has already been well documented. However, these artificial ponds differ from natural ponds in a number of respects, such as size, depth, pH, primary productivity, and so on. Thus, the use of these tailings ponds by certain amphibian species, in particular, raises concerns about possible impacts on the conservation of these species. Indeed, some field studies have associated mining activities with elevated concentrations of heavy metals in amphibians, exacerbating the effects of environmental disturbance. In this study, we will compare the ecological success of these new artificial wetlands, i.e. tailings ponds, with that of beaver ponds, which are natural wetlands used by amphibian species in the boreal region of western Quebec.

To do so, we will a) use acoustic recordings, and visual encounter surveys to compare occupancy and abundance of frogs in natural and mining ponds given their different characteristics, such as size, depth, temperature, pH, and age; b) explore if reproduction and phenology of frogs development differ in these 2 systems based on repeated surveys of egg masses and development stage of tadpoles; c) use Capture-Mark-Recapture on a subset of 3 sites per type to estimate the survival of frogs in mining ponds vs natural ponds. From these results, we will attempt to assess whether mining ponds provide suitable habitat for the conservation of amphibian species, or whether they act as ecological traps.

This internship is from the **12th of May until to the to the 4th of August**. The internship includes participation in a [Microprogram of initiation to research in environment](#) where the intern learn how conduct research and biodiversity surveys and the fundamentals of the boreal Ecosystem. The internship will then consist of assisting a MSc student in her field work. The work will include habitat characterization, visual surveys for frogs, and catch and release of tadpoles and frogs. The applicant should be hard working, open to long work hours, and not be afraid of getting wet (and possibly slimy).

To apply, send a letter of intent, a CV, a copy (unofficial) of your transcripts in pdf format, and contact information for 2 referees to: gabriel.pigeon@uqat.ca before **Mach 10**. Please indicate "application pour le Projet grenouille" in the subject line.

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[Page web](#)

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