

Counting frogs: Why monitoring our amphibian populations is important

March 23 2010

Amélie Perez is preparing to tally the number of amphibians in the Montreal area for the second summer in a row. The objective? To measure the impact of the invasive plant *Phragmites australis*, or common reed, on the amphibian populations of southern Quebec.

A graduate student in biology at the Université de Montréal, Perez intends to visit more than 50 swamps and lakes. Last year she spotted seven species: the grey treefrog, northern spring peeper, wood frog, green frog, northern leopard frog, bullfrog and the American toad. She captured and released 257 adults and 1600 tadpoles.

Phragmites australis comes from overseas and has spread in Quebec ecosystems at an alarming rate. Wherever it lays its roots, the neighboring biodiversity is threatened and biologists are increasingly interested how plants and animals either adapt or disappear from that ecosystem.

"The analysis is far from over," says Perez. "Initial findings show that there is a slight decrease in [frogs](#) wherever *Phragmites australis* grows - except northern leopard frog populations, which seem intact."

The last leg of her research will be experimental. Perez will put eggs, tadpoles and colonies of *Phragmites australis* in controlled water basins to see how pH levels, oxygen and temperature are affected.

As a European, Perez moved to Quebec to explore its natural ecosystems

and abundant biodiversity. She quickly learned, however, that the natural treasure is far from secure. More than a third of Quebec's amphibian species are threatened with extinction, according to the International Union for Conservation of Nature. That number could increase if Quebec wetlands and natural habitats aren't protected.

"The disruption of aquatic landscapes (increased agriculture, disappearing of wetlands) is the number one reason for the decline in [amphibian](#) populations," says Perez. "The invasion of these wetlands by exotic plants could be just as disastrous."

Perez' research, which is supported by Ducks Unlimited Canada, is being supervised by Jacques Brisson, a researcher at the Université de Montréal Institut de recherche en biologie végétale, and Marc Mazerolle, a professor at the Université du Québec en Abitibi-Témiscamingue. Both are conducting a broad study of the impact of this invasive *Phragmites australis* in Quebec. Their work is supported by the Natural Sciences and Engineering Research Council of Canada and the Canadian Wildlife Service.

Provided by University of Montreal

Citation: Counting frogs: Why monitoring our amphibian populations is important (2010, March 23) retrieved 30 June 2024 from <https://phys.org/news/2010-03-frogs-amphibian-populations-important.html>

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