

UNH Partners with International Paper on Study to Better Understand Amphibian Ecology in Vernal Pools

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DURHAM, N.H. -- University of New Hampshire researchers this spring will study the impact of forest modifications such as timber harvests on amphibian populations in the vernal pool habitats of northern New England forests.



The UNH project will examine the relationship between the degree of forest disturbance, and the size of spotted salamander and wood tree frog populations.

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undergoing metamorphosis. The new generation of frogs and salamanders then moves into the nearby upland habitat, later returning to the wetlands to breed.

The study is funded by a \$390,000 grant awarded to the university by the U.S. Department of Agriculture.

Fed by snowmelt and rain, vernal pools fill in early spring and generally dry up between mid-summer and fall. These pools, and the surrounding upland forest, are critical to the amphibian life cycle.

Adult frogs and salamanders lay their eggs in these wetlands, and once hatched, the larvae remain there while

"Vernal pools are the exclusive or facultative breeding habitat for many amphibians in the United States," says Kimberly Babbitt, UNH associate professor of wildlife ecology, who is conducting the project with postdoctoral research associate Matthew Baber. "Consequently there has been an effort on the part of forest managers to create a 'hands off' buffer zone around these pools. The question is how broad a buffer does one need to truly make a difference for these populations?"

Research to answer that question is lacking for forests in Maine and New Hampshire. With this study, the researchers hope to provide the

scientific basis for ecologically and economically sound forest management in this region.

International Paper, which manages more than 12 million acres of land in the United States, will participate in the study by making controlled cuts in woodlands around vernal pools to support the project's experimental design.

"This study will provide the science to support forest management that conserves wetland habitats and the fauna that depend on them to survive," says Gary Donovan, a wildlife ecologist for International Paper. "It will help us to insure that all indigenous natural resources remain viable in commercially managed forests."

The project will examine the relationship between the degree of forest disturbance, and the size of wood frog and spotted salamander populations. Babbitt and Baber plan to manipulate the width of buffer zones around certain pools to determine whether there is a minimum width that protects these populations. Using radio tracking, they will study the movement of both species.

"Protecting wetlands is important, but amphibians require upland habitat as well," says Babbitt. "This aspect of their ecology, so critical to sound forest management, has been under-appreciated. We are excited to be addressing this important subject with the help of International Paper." (Contributing writer: Dolores Leonard, UNH Publications)

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