

# NEWS RELEASE

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Sept. 7, 2006

## NC State Tree Preservation Program Working to Save Hemlocks from Extinction

### FOR IMMEDIATE RELEASE

An international tree conservation program founded at North Carolina State University to preserve endangered tree species worldwide is now focusing on saving a tree species a little closer to home: the eastern hemlock.

Camcore International Tree Conservation and Domestication is the largest international tree conservation partnership in the world. Located in the College of Natural Resources' Department of Forestry and Environmental Resources, Camcore works to protect endangered tree populations from extinction by collecting seeds from those species and sending them to other countries – where they can be better protected – for planting.

Although Camcore focuses primarily on species of pine – an important economic and natural resource in the member countries – it has expanded to include some hardwood species, such as eucalypts from Indonesia and now the eastern and Carolina hemlock from the southern United States.

Eastern and Carolina hemlocks are found in the Appalachian mountain range. In recent years the trees have suffered infestation by the hemlock woolly adelgid, an insect that destroys the trees by feeding on them. Fifty percent of the Appalachian hemlock population has been infested and is at risk of extinction, which could adversely affect the ecological balance in the entire region.

“Hemlock is found primarily along streams, where it keeps the soil in place and prevents runoff,” says Robert Jetton, project coordinator for Camcore’s hemlock conservation initiative, and Ph.D. candidate in entomology.



A carolina hemlock infested with hemlock woolly adelgids. Inset: A close-up of the insect. Photo: Robert Jetton.

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“Its leaves create a dense canopy that moderates temperatures along the streams. That’s really important for some of our endangered fish species, like the brook trout, which is extremely sensitive to changes in water temperature. Even deer, birds and turkeys depend on the hemlock during their breeding and nesting cycles. And there’s no other tree species that will fill that niche – the hemlock is unique.”

Jetton, along with Andy Whittier, a research forester working with Camcore on the hemlock project, hopes that their efforts will stop the hemlock’s decline.

Jetton’s research focuses mainly on the adelgid itself. “Our hemlocks have no evolutionary history with this insect, and no natural protection against it,” he says. “One of the most promising avenues of control seems to be the possibility of introducing a natural predator into the adelgid population.”

In addition, Jetton and Whittier have overseen the collection of hemlock seeds from trees throughout most of the Southeast as part of the Camcore conservation initiative with the U.S. Forest Service. These seeds have been shipped to Camcore participants in Chile and Brazil for the establishment of field conservation banks in those countries. The scientists are also doing nutrient and soil research to determine the best growing conditions for the trees.

“This way, even in a 'worst-case-scenario' where the adelgid infestation continues, the hemlock tree can still be conserved," Jetton says.

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