

Nature nurtures science

■ *At Huntington Forest, ESF students study climate change, forest ecology, and wildlife behavior.*

By Kim Martineau

WHILE THE BLUE LINE has stopped strip malls and subdivisions from paving over the Adirondacks, it has offered little defense against acid rain, global warming, and other unseen threats. These environmental problems are not unique to the Adirondack Park, but tucked within its borders is an unusual laboratory for studying them and one day even fixing them.

Sprawling across fifteen thousand acres, Huntington Wildlife Forest is the largest field station in the Adirondacks, a teaching and research center for Syracuse University's College of Environmental Science and Forestry (ESF). Some of the earliest acid-rain research in the Adirondacks was done here in the 1970s, and researchers have amassed observations on topics ranging from the nesting success of loons to the timing of ice cover on Huntington's five lakes. The data are a gold mine for scientists looking at the effects of climate change and other long-term trends on the ecosystem. Some experiments have failed, most notably the effort to reintroduce lynx two decades ago. But many more have succeeded, and scientists hope to use what they learn at Huntington Forest to shape policy and forest- and wildlife-management decisions in the Adirondacks and beyond.

On a humid morning in August, Colin Beier zipped on a mesh bug-shirt and stepped through a cloud of black flies into his truck. Trained as an ecologist, Beier is a burly man, age thirty-four, with brown eyes, a beard, and the ability to pivot from discussing ecosystem services to the importance of fungus in forest regeneration, all the while scrambling over deadfall to inspect a polypore mushroom growing from a tree. This is Beier's fourth summer at the preserve, and he has offered to give a tour of his enormous backyard starting from ESF's Adirondack Ecological Center on Route 28N.

Rolling over Fishing Brook, we enter the heart of Huntington Forest. The light dims as the tree canopy grows taller and thicker, and the rich smell of decaying leaves fills the air. When Beier cuts the engine, the pulsing sound of cicadas emerges. We walk to a stand of trees tied with colored tape, where three students are pacing across a study plot with measuring tape and notebooks. Huntington Forest is broken into a grid, interspersed with about three hundred study plots like this. Forest managers and students visit each of the plots once a decade to track the changes. Like doctors performing a physical exam, they will measure the girth of individual trees and assess their overall health as well as take note of the species that compose the forest.

We don't have to look far for signs of beech-bark disease. One student stops in front of an American beech devoid of leaves, a silver tag hanging from its swollen, blistered bark. "It's dead now," she says, as her cohort scribbles in his notepad. Near the tree's roots, a thicket of saplings has sprouted. The sprouts are the tree's stress-response to invasive scale insects boring into its bark and an infection caused by native fungus. The insect-fungus disease is a one-two punch that slowly kills the tree. The disease swept through Huntington Forest and the Adirondacks in the 1960s, says Beier, and most of the beech standing today are offspring of the first victims and likely destined for a similar fate.



Photos courtesy of ESF



Archer Huntington, left, built a wilderness retreat on Arbutus Lake near Newcomb.

In college, Beier was bound for a career in medicine until an ecology class uprooted his plans. "I wanted to study nature," he said. "I didn't want to study humans." The calling led him to Virginia Tech and the Great Smoky Mountains, where slopes once dominated by chestnut were covered in native rhododendron bushes. A mix of chestnut blight and decades of logging and fire suppression had allowed the shrubs to run rampant, taking sunlight from tree saplings needed to restore the canopy. As he wrote his master's thesis, Beier wondered, how could humans fix the damage? And suddenly, he realized that to save nature from human interference you had to also study humans. For his Ph.D., at University of Alaska at Fairbanks, he traveled to Alaska's Tongass National Forest to study the interplay of ecology, economics, land-use policy, logging, and climate change. He draws on the lessons he learned there often, he says, in thinking about how the Adirondacks can balance economic growth with the protection of natural resources. He grows animated as he explains one of his ideas. What if you could harvest all those diseased beech trees for fuel?

Mossy Camp on Arbutus Lake

Archer Huntington was a large man, and his favorite armchair was low to the floor, letting him stretch his legs

while admiring the conifer-ringed Arbutus Lake a century ago. The lodge that he called Mossy Camp was recently restored, and the chair where he liked to lie about is still there. Though he frowned upon hunting, even firing a crew of laborers after learning a beaver had been killed on his property, he decorated this great room with stuffed ducks and trophies of deer and elk. On a still night, loon cries echo off the water, and it's easy to imagine an era when industrialists became rich opening up the American wilderness and philosophers like Henry Thoreau preached the virtues of living in harmony with nature.

Archer's adoptive father, Collis Huntington, helped develop America's first transcontinental railroad and several interstate lines. In 1895, Collis bought Camp Pine Knot on Raquette Lake from fellow railroad developer Thomas Durant. Made of twigs, logs, and intricate stonework, his summer retreat became a template for the Adirondack Great Camp, an architectural style that Durant's son, William, would spread across the Park. In search of a camp of his own, in 1899, Archer purchased Goodnow Mountain and adjoining lands from William Durant, later adding on the Caughnawauga Club, once a retreat for wealthy sportsmen.

After his first marriage ended in divorce, Archer in his fifties married sculptor Anna Hyatt, the daughter of a Harvard professor who founded the Woods Hole Oceanographic Institution. She shared his love of the outdoors and animals. In two gifts in the 1930s, the couple donated Mossy Camp to Syracuse University (which had earlier awarded Anna an honorary degree) for use as a wildlife-research station.

Huntington Forest was unique. Most of it had never been logged, burned, or farmed. Plant ecologist Frank Egler, a Syracuse professor who helped Rachel Carson prepare her seminal book, *Silent Spring*, praised Huntington Forest in a 1941 letter in the journal *Science*. Its pristine state, untouched by human influence, made the forest ideal for long-term scientific study, he