

Envisioning an Evergreen Massachusetts

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Atop of Massachusetts' Great Hemlock Mountain, the loudest sound on a sunny autumn morning is the percussion of acorns on dry leaves. From a clearing the view stretches the eye, great swatches of forest rolling north into New Hampshire *and* west to the Connecticut River Valley.

What really catches my eye, though, is beneath our feet, mounded against hemlock trunks, spread richly across the springy moss understory. It's moose poop, lots *and* lots of it. This is no stray sauntering from the Maine woods; rather it's from herds, becoming routine here an hour *and* a half from Boston.

Something big rustles downslope in thickets of yellow birch springing up on an old clearcut — moose, black bear, a cougar? All are possibilities now. Only seven states have a higher percentage of forest cover, despite burgeoning human growth that makes Massachusetts the nation's third most densely populated state — "more people living around more trees than anyplace in the world," Heidi Ricci, a Massachusetts Audubon official says.

Across New England, forests from the 1600s on were cut for fuel *and* timber *and* cleared for agriculture. By the 1850s many regions had as little as 10 percent of their original tree cover. Muskrats were the largest animals left in the countryside, lamented Henry David Thoreau (1817-1862) toward the end of his life.

But even as he wrote, the forests were coming back as farms *and* sawmills were abandoned, alternate fuels developed, *and* people moved into towns *and* cities. Across New England it's been a similar, almost inadvertent success story: the landscape supporting more trees *and* wildlife than at any time since before the American Revolution.

But in the last few decades, everywhere except Vermont, that great greening has clearly reversed. In Massachusetts the losses average more than 40 acres a day, or around two square miles a month, according to a study by Massachusetts Audubon.

Two views of Massachusetts: Quabbin woodlands in New Salem (above) and a residential area surrounded by forest (inset).

And it's a fundamentally different loss this time. A potent mix of more people, sprawling out from traditional town *and* city centers, is now mainly what erodes the region's 'second chance' forest. The original wave of clearing degraded the landscape too, but left it open *and* able to

regrow. Suburban subdivisions, roads, big box stores, *and* mall parking lots will afford no such option.

In 2005 David Foster *and* a number of colleagues published a report aimed at countering this trend: *Wildlands and Woodlands: A Vision for the Forests of Massachusetts*. They called for adding 1.5 million acres to the 1 million acres of open space already protected from development. Their target for permanent protection from development — 2.5 million acres — is equal to half of Massachusetts. The cost: an estimated \$130 million a year for the next 20 years.

"Perhaps the only unfortunate aspect of *Wildlands and Woodlands* is that it has 'Massachusetts' in the title," says Foster, director of the Harvard Forest. "There are similar histories of deforestation *and* reforestation *and* the need to protect it all over the eastern U.S." The report has been widely supported in Massachusetts *and* around New England, *and* Foster has talked to interested groups as far away as California's Save the Redwoods League.

Beneath its grand preservation vision, *Wildlands and Woodlands* emerges in conversations with Foster *and* others as intensely local, dependent on multitudes of small landowners also dedicated to sharply increasing human use of the Massachusetts woods.

Ownership of the state's forest, which often appears as a solid green cloak, is splintered among some 250,000 private parties who hold 2.5 million acres. About half a million more acres are in public ownership. It's the story of America, where some 10 million individuals own nearly half the nation's forests in holdings that average less than 100 acres.

"How do we convince so many owners to set aside large areas of the forest?" Foster says. "There's an ambivalence toward wilderness in New England because we have such a long history of using the forest."

Indeed. *Wildlands and Woodlands* envisions preserving only 5 percent of the state, some 250,000 acres, in forests that are essentially unmanaged, where natural processes are free to evolve, including an eventual return to old-growth forest.

Massachusetts currently produces 6 percent of the wood it consumes.

The report doesn't specify where these wilderness tracts would be, but envisions unbroken tracts from 5,000 to 50,000 acres in size, largely on existing public lands. Foster says that scale — 50,000 acres is about 80 square miles — is the minimum needed in the long term to preserve the full range of plants *and* animals *and* to let disease, storms, *and* other natural processes play out without loss of the whole wildland.

The great bulk of the woods that currently cover 60 percent of Massachusetts would be protected as "working landscapes" in the *Wildlands and Woodlands* scheme, managed sustainably for wood. Well-managed timberlands can perform nearly as well as untouched forests in terms of water quality, recharging aquifers, absorbing air pollution, *and* protecting stream quality, Foster says.

Ironically, forests that for centuries were cut *and* cut again to the point of mass destruction now sit relatively idle from the standpoint of wood production. Massachusetts produces only 6 percent of the wood it consumes, even though timber volume in its rapidly growing forests has doubled these last few decades. Foresters estimate the state could supply more than 40 percent of its wood, enough to build houses for 250,000 people a year on a sustainable basis.

That it does not is no surprise to David Kittredge, University of Massachusetts forestry professor *and* a collaborator with Foster in the report. The "social dimension," reconnecting people to forests throughout Massachusetts, is critical to the success of *Wildlands and Woodlands*, says Kittredge.

He was sobered a few years ago when the local planning board he serves on in Shutesbury put together a 'right to conduct forestry' bylaw, a "no-brainer," Kittredge assumed, in a region that is 93 percent forested.

Instead, the bylaw met with universal opposition. "People said they didn't move here to hear chain-saws. I realized the forest was still intact, but it was too late for forestry, there was a new attitude overlaid on the woods," Kittredge says.

Only a small fraction of Massachusetts landowners have long-term forestry plans; across the Northeast, fewer than 5 percent of private forest owners have management plans. Thus another key element of *Wildlands and Woodlands* is devising ways to involve thousands of small private owners in sustainable uses of their forestlands.

Enter Keith Ross, a hefty, bearded Oklahoman who is already doing this, even as the state legislature debates bond financing to make at least a start on protecting land for *Wildlands and Woodlands*.

Ross operates out of the second floor of a partly restored 1890s brick schoolhouse in Orange. His office is papered with property maps showing the status of land conservation deals across New England. He works for LandVest, a real estate *and* timberland consulting company, *and* is founder of the local Mt. Grace Land Conservation Trust.

Ross is used to thinking big about conservation. He was a key architect of the Pingree deal in Maine a few years ago, buying development rights to an astounding 750,000 acres of forest, including the headwaters of the famous *and* wild Allagash River. He spent two years courting the Pingree family before it agreed to sell for \$31 million, or as Ross likes to put it, "\$37.10 an acre."

At left, a white pine forest in Miles Standish State Forest, the largest publicly owned recreation area in southeastern Massachusetts.

He says the lesson of Pingree, the first conservation deal in the East on such a scale, "was that 'big' opens many possibilities. High-end donors loved it, media interest was high.

"In Massachusetts, we're not going to protect 1.5 million acres with each little local land trust doing one deal at a time, often competing for the same sources of money," he says.

One solution, Ross says, is 'aggregating' or 'bundling' dozens, even hundreds of small, willing forest owners, along with several local land trusts, into one big proposal for funding to buy development rights. It is already working, Ross says.

In the Mt. Grace region an advertising campaign found dozens of landowners wanting to protect their forests. The resulting 9,100 acres was large *and* effective enough — almost all abutted existing state lands — to get \$9 million from Massachusetts to buy development rights. Typically, Ross says, landowners agree to accept payments based on 75 percent of their land's appraised value. They frequently can take a tax break on the 25 percent they "donate."

Another ambitious bundling project involves a dozen land trusts *and* 120 forest parcels owned by 80 people. Of the 80 owners initially contacted, Ross says, 47 agreed to the deal. He is currently working on a grant proposal to protect 8,000 acres.

"The bottom line is you attract funders who would never consider a small parcel, *and* you get economies of scale in doing bulk appraisals, legal work, a whole range of things," he says.

From the small forest owner's point of view economies of scale can be critical. Stephen Long, a woodland owner in Vermont, wrote in Northern *Woodlands* Magazine this year that he was "stunned" to find it would cost him more than \$5,000 to donate his small property. But by bundling into a 4,800-acre project, his costs came down to \$12 an acre.

Another way *Wildlands and Woodlands* envisions changing the way people protect forestland in Massachusetts is through the development of Woodland Councils.

Ross says five are already up *and* running. Loose, regional forums anchored by local land trusts or watershed associations, they meet to support *and* advise property owners on "everything from low-impact tree cutting to how to start a B&R, to donating development rights."

Mountain laurel against the backdrop of Millers River, Athol.

Ross has seen "an incredible change in the way people in New England think of forests, a sea change from the 1970s. Lately, many are seeing protecting their forests as a way to help fight global warming."

Indeed, careful measurements at the Harvard Forest have documented that its 3,000 acres of trees are removing about 3,000 tons of CO₂ per year. The entire Massachusetts forest may be absorbing on the order of 3 million tons a year. Harvard's Foster says rapidly regrowing forests across North America may be removing up to 30 percent of the CO₂ generated globally from burning fossil fuels.

"There are no lazy forests," Ross agrees. "**Wildlands** are working forests too, providing water quality, air quality, wildlife, recreation. If we're going to have more development we will need more green infrastructure, too. Wildlife needs its corridors, connectors, **and** (forest) blocks just like humans need roads, roundabouts, parking lots.

"I think eventually the money we're raising now from grants **and** private donors will be seen as bridge loans until society recognizes it needs to pay for these ecosystem services. These will create income streams longer **and** slower than real estate sales... but permanent. We have to take responsibility for these natural resources we've taken for granted."

Meantime, Ross has deals in mind that he thinks could raise as much as \$40 million to protect 100,000 acres. Massachusetts Governor Deval Patrick has proposed \$50 million this year in new land conservation money; at press time it seemed likely to pass.

A **Wildlands and Woodlands** Finance Roundtable met in 2006 to begin researching long-term funding. It deemed the 1.5 million-acre goal achievable if the \$100 million a year that currently goes into land conservation from public **and** private sources can be increased by between \$30 million **and** \$150 million a year **and** sustained over the next 20-30 years.

The issue is about forest quality as well as acreage, David Foster says. If Massachusetts did nothing with the **Wildlands and Woodlands** concept, "our rate of loss is pretty constant... in 50 years we would still have a lot of forest — but not the forest we want."

*A planning meeting crafts a Forest Legacy proposal for the U.S. Forest Service to promote forest protection **and** the **Wildlands and Woodlands** effort.*

The choice, he says is "a true green infrastructure" versus just green, a forest high in timber **and** wildlife values, some of it well on its way back to old-growth, or one that is increasingly shot through with unplanned development **and** ecologically degraded.

The Granite State's goal of preserving forest cover **and** adding even more despite encroaching development **and** long-term costs has other states watching with interest.

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By Tom Horton

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