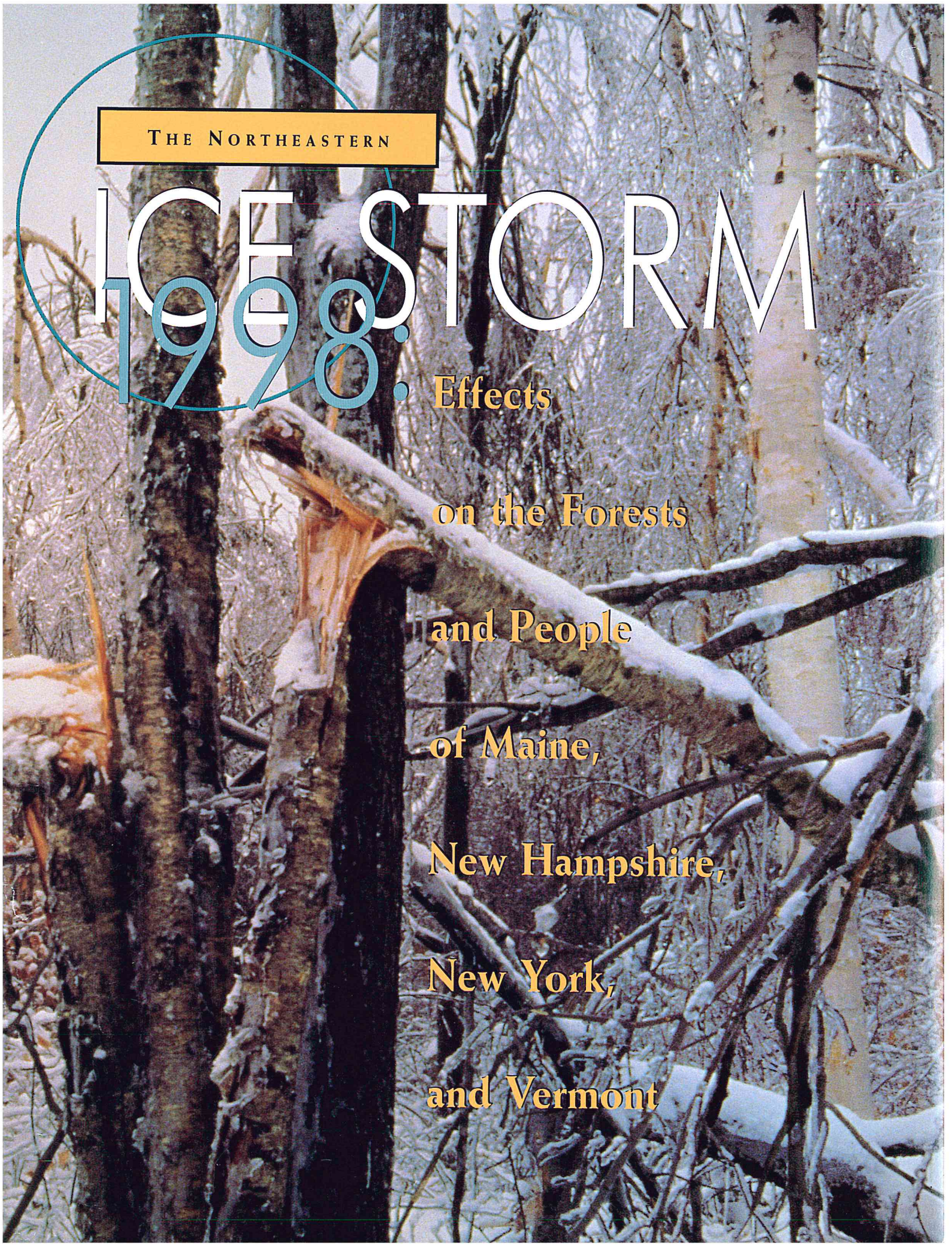
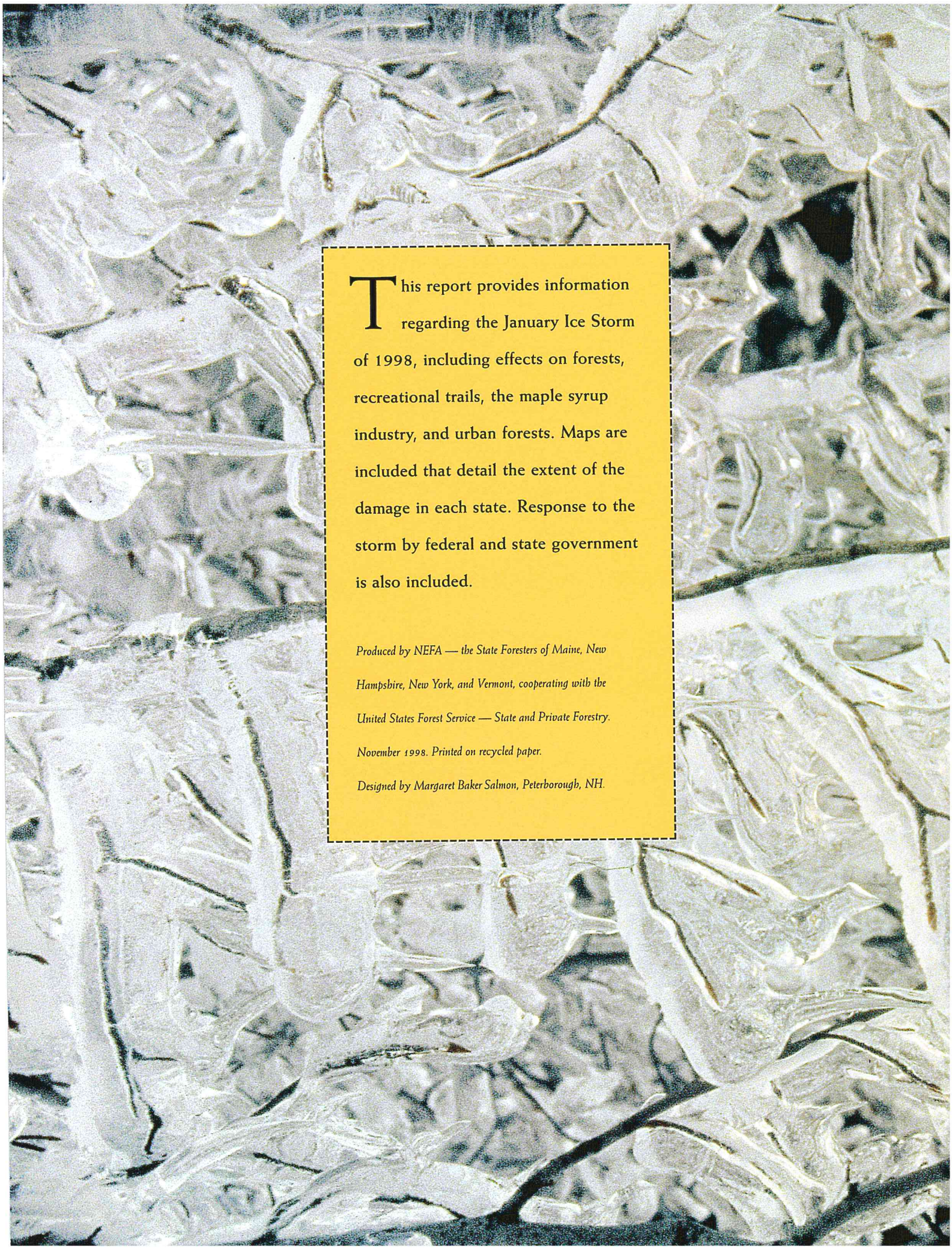

THE NORTHEASTERN
ICE STORM
1998:
Effects
on the Forests
and People
of Maine,
New Hampshire,
New York,
and Vermont



This report provides information regarding the January Ice Storm of 1998, including effects on forests, recreational trails, the maple syrup industry, and urban forests. Maps are included that detail the extent of the damage in each state. Response to the storm by federal and state government is also included.

Produced by NEFA — the State Foresters of Maine, New Hampshire, New York, and Vermont, cooperating with the United States Forest Service — State and Private Forestry.

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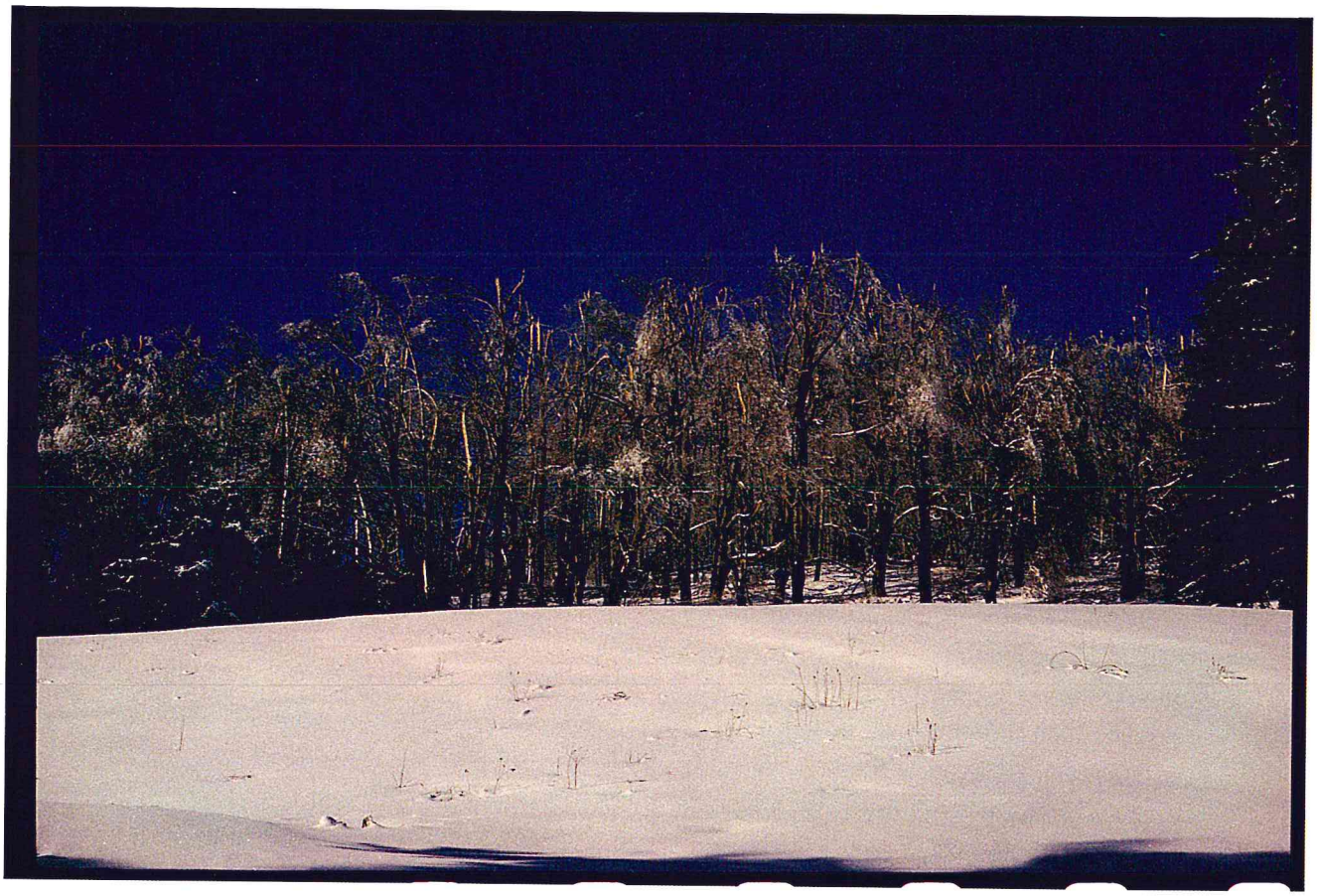
Designed by Margaret Baker Salmon, Peterborough, NH.



Doug Rose

The **ICE STORM** *of January 1998*

IN JANUARY OF 1998, a series of ice storms blanketed northern New England and New York with up to three inches of ice. Forestland covers 40 million acres of this region, and 17 million acres of those forests were damaged by the storm. Five million acres were severely damaged. Thousands of urban trees were also affected, with snapped limbs toppling power lines across the region. Some people were without power for two weeks and a total of 37 counties were declared federal disaster areas. Meteorologists have called the storm a "100-year event," and many compare it to the great hurricane of 1938. Estimates for natural resource losses exceed $1 billion.

In the Forest

Chris Costello

BIOLOGICAL IMPACTS to the forests of northern New England and New York are both obvious and hidden. Damage to trees was highly variable within forest stands. Some trees suffered broken branches and tops, others were bent over, and in some cases trees were uprooted. The extent, frequency, and severity of damage is currently being assessed on both a forest stand and an individual tree basis. Landowners have been advised to harvest trees that have sustained loss of more than 75% of the crown and to observe the rest over the next several years. If forests are subjected to other environmental stresses, such as drought, trees that survived the ice damage could be more prone to insect and disease problems and might die. Loss of shade near streams could warm the water and affect cold water fishes like trout.

Because the storm was short in duration and most of the ice melted soon after the event, there have been some benefits to wildlife. Fallen and broken branches full of buds and twigs are now within reach for food, and will also provide cover. Areas exposed to more sunlight in the forest will allow sprouting of herbs and shrubs, creating another food source. Breakage on trees provides entry for decay and will later become a cavity, creating homes for many birds and small mammals.

There are no clear estimates of economic impacts from the loss of timber caused by this storm. For the people who use the forests and depend on them for their livelihood, the impact is dramatic. Initial estimates indicate about $650 million in losses. Many rural landowners will lose forest income and access to their woods. Management plans for those forests may now be obsolete. Loggers, already in a risky profession, face working in woodlots with broken limbs overhead and debris underfoot. Debris increases the risk of fire and impedes access to any blazes that may occur.

John Gibbs, Beaver & Bedrock Tree Farm, *DeKalb, New York*

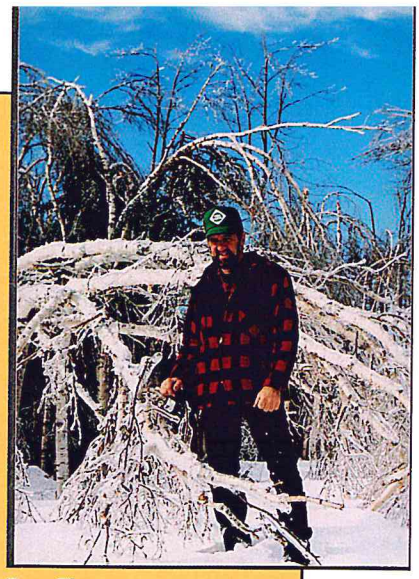
John Gibbs has worked as a forester for the New York Department of Environmental Conservation for over ten years, and he knows the forests of St. Lawrence County pretty well. But the ice storm of January 1998 hit that region of New York particularly hard and many of those forests have now become unfamiliar and inaccessible. John Gibbs recalls being at home during the storm and "sitting at my dining room table, with a sick stomach, watching my trees fall apart."

Pat Whalen

John Gibbs

The Beaver and Bedrock Tree Farm consists of 260 acres of forests, wetlands, and pasture. Mr. Gibbs has been actively managing 160 acres of young sugar maple, planning a harvest that would supplement his retirement fund. Those trees are now completely destroyed — snapped, bent over, and uprooted. To make matters worse, much of the damage is located in inaccessible areas of the woodlot. Mr. Gibbs has marked the timber that can be harvested, updated his Stewardship Plan, and designed a one-mile road to access the downed wood. He will get assistance for all these practices from the emergency appropriation money provided by Congress.

"For me," says Mr. Gibbs, "the loss is more economic than ecological. There is good reproduction in the stands that were heavily damaged, so I know the forests will recover, but my investment will not. However, I take my role as steward very seriously and I will make sure that the forest I pass on will be in good shape."



Tom Thomson

Tom Thomson, Thomson's Family Tree Farm, *Orford, New Hampshire*

"**If we grew** tobacco or cotton, we'd be in fine shape, but we've simply slipped through the cracks," laments Tom Thomson. "I have looked into absolutely every possibility for assistance from federal and state programs to help with the cleanup of nearly $400,000 worth of timber loss from the storm, and there is nothing available to us because the federal government does not consider trees as crops."

A tour of the 1,060-acre tract, which was named the 1997 Northeastern Tree Farm, reveals the devastation caused by the storm. Mr. Thomson's forester has determined that in an area of about 900 acres, 20% of the spruce and fir and 90% of the hardwood trees lost more than 75% of their crowns in areas above 1,800 feet in elevation. The entire live crowns of spruce and fir snapped, while every stem of hardwood is either broken or has sustained damage to the crown.

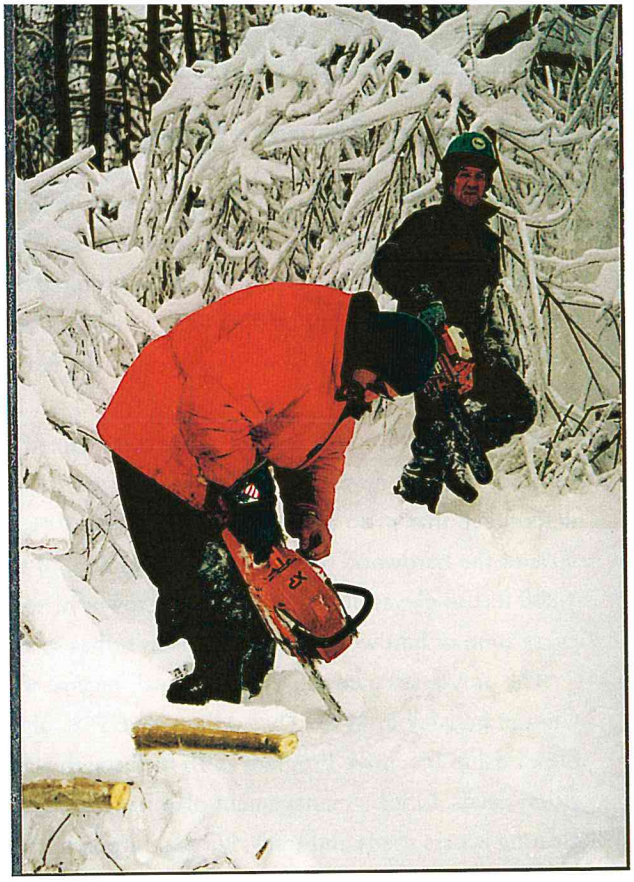
The only assistance the Thomsons will receive will be from the disaster relief bill signed by President Clinton on May 5, 1998. They will receive 75% of the cost of preparing a management plan under the Stewardship Incentive Program (SIP) or through a special Stewardship practice developed to address ice storm needs. Once a management plan has been completed, funding will be provided through SIP for clearing access roads and trails. For tax purposes, the Thomsons can only claim the portion of the loss that is the undepleted part of their basis in the timberland — this represents about $158,000.

Tom Thomson's son had just purchased a skidder to go into full-time business harvesting on the Tree Farm when the storm hit. Now Mr. Thomson won't let him into the damaged areas to cut with a chainsaw because of the danger. They began harvesting with a mechanical cutter during the summer of 1998 to salvage the softwood, before it is a complete loss.

Henry Whittemore

On the Trails

THE TOURISM & RECREATION industries also suffered losses as a result of wood debris, which covered recreational trails and ski runs on private and public lands. The ice storm left about 200,000 acres of the White Mountain National Forest covered in heavy ice, blocking 850 miles of trails and roads. The Green Mountain National Forest lost access to 257 miles of trails, several trail shelters, and one bridge. Two hundred and ninety miles of roads and trails were closed on state lands in New York. There was also extensive damage to trails that go through private lands, including hiking, snowmobiling, and skiing trails. The state of Maine has 6,000 miles of snowmobile trails — 3,000 of these had significant damage. Partial clearing of trails regionally has been accomplished through dynamic partnerships between the Forest Service, the Appalachian Mountain Club, and numerous hiking, outing, and snowmobile clubs.



White Mountain Ridge Runners clean up a snowmobile trail.

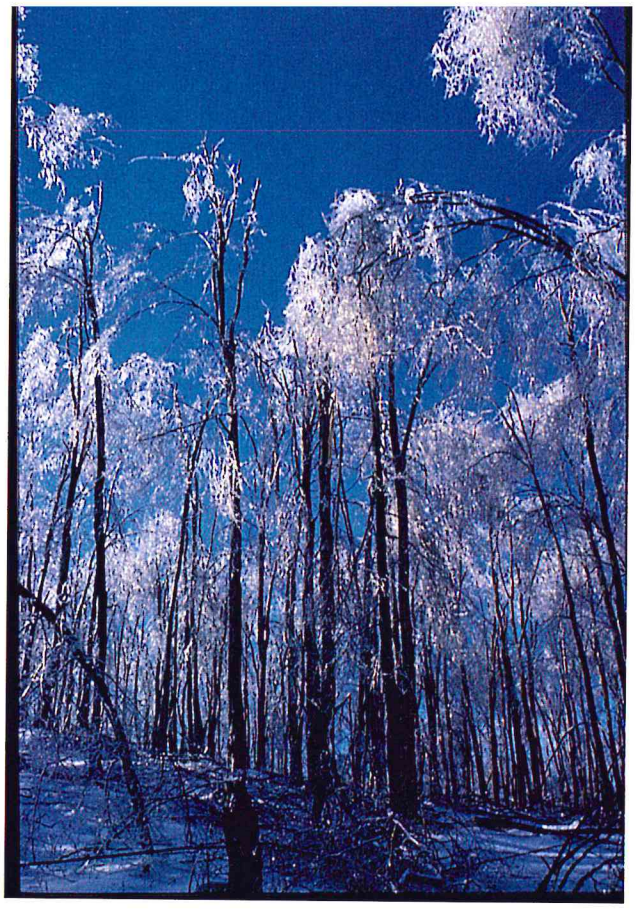
Rob Burbank

Clearing trails in the White Mountain National Forest.

In the Sugarhouse

MAPLE PRODUCERS were hit particularly hard in this storm. Management of a "sugarbush" calls for large trees with big crowns that are widely spaced. This made them more vulnerable to damage from heavy ice. Some producers initially predicted total loss, with Clinton County in New York reporting 100% of lost production. New York estimates $6.4 million in lost production statewide. New Hampshire estimates that 500-700 acres may not go back into production. Data available from two counties in Vermont indicate that tapholes were reduced by 12,000 in that area.

Most producers will follow conservative tapping guidelines for the next few years. Maple sap production may be affected for years, even decades, as a result of the storm.



Doug Rose

Doug Rose, Green Mountain Sugarhouse, *Ludlow, Vermont*

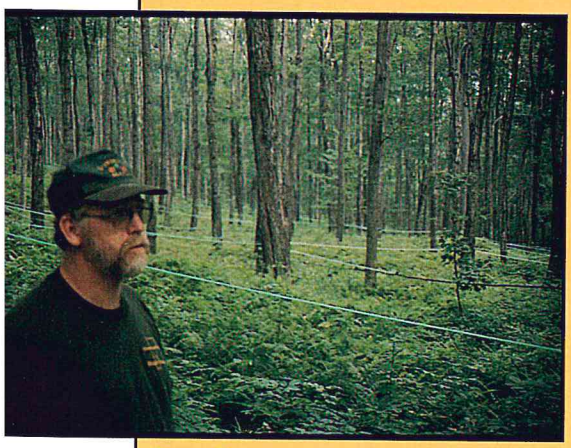
Doug Rose has worked in his Ludlow, Vermont, sugarbush since 1970 and has never seen anything like the damage caused by the January 1998 ice storm. "I think a bomb would've been easier, because there would've been just one big hole," said Rose. "It looks like a lawn mower just ran over the trees — the tops are all clipped off."

Rose's Green Mountain Sugarhouse operation normally runs 12,000 taps and makes about 3,000 gallons of maple syrup. After renting new taps off surrounding lands and salvaging what he could off his own sugarbush, Rose was able to produce about 1,200 gallons in 1998.

Although the early signs indicated a huge loss, and the sugar maple damage is severe on the 250 acres he taps, Rose's view in the summer of 1998 is a bit different than back in January. "I don't think the long-term damage is going to be quite what we thought," Rose contemplates. "We will lose some taps for good — probably about 300 of the 4,000 on my 86-acre South Reading bush — but it won't be a complete loss," he adds.

Rose has received aid for the cleanup because sugar maple operators are considered "farmers" by the USDA. The Farm Service Agency is cost sharing up to 64% to a total of $24,000 for the work. Additionally, his business insurance covered the labor and materials to replace $24,000 worth of tubing, but so far has not agreed to compensate him for the loss of syrup production this year.

Charles Levesque



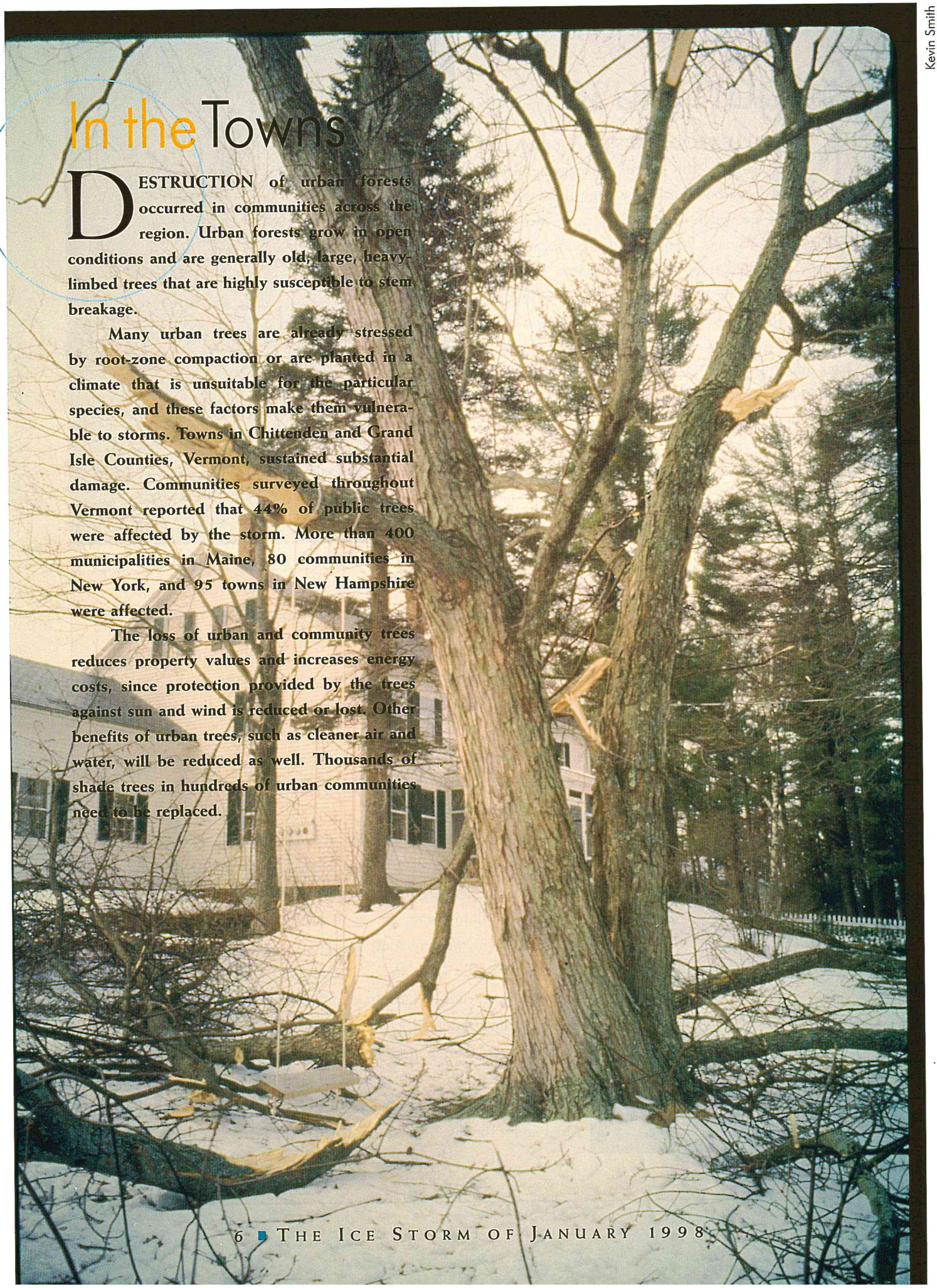
Doug Rose

In the Towns

DESTRUCTION of urban forests occurred in communities across the region. Urban forests grow in open conditions and are generally old, large, heavy-limbed trees that are highly susceptible to stem breakage.

Many urban trees are already stressed by root-zone compaction or are planted in a climate that is unsuitable for the particular species, and these factors make them vulnerable to storms. Towns in Chittenden and Grand Isle Counties, Vermont, sustained substantial damage. Communities surveyed throughout Vermont reported that 44% of public trees were affected by the storm. More than 400 municipalities in Maine, 80 communities in New York, and 95 towns in New Hampshire were affected.

The loss of urban and community trees reduces property values and increases energy costs, since protection provided by the trees against sun and wind is reduced or lost. Other benefits of urban trees, such as cleaner air and water, will be reduced as well. Thousands of shade trees in hundreds of urban communities need to be replaced.



Kevin Smith

The City of Augusta, Maine

On the morning of January 8, 1998 the people of Augusta, Maine, awoke to find their city covered in ice and their community forest smashed and broken. Fortunately, an arborist had been hired by the city 18 months earlier. Dave Gomeau had spent that time doing basic tree care, assessing Augusta's municipal trees, preparing a community forest management plan, and forming strong mutual partnerships with different public and private groups, including the highway department, parks and recreation, and Central Maine Power. Little did he realize what an important role these partnerships were going to have on the ability of the city to recover from the storm.

Gomeau's estimate to FEMA for repairing, removing, and cleaning up the trees was $250,000. "Knowing how depressed the city residents were, we began working in front of the library, which is in the center of the community," said Gomeau. By May 1st there was very little sign of the storm's devastation. The city repaired 3,000 trees and removed only 168, which Gomeau had targeted for removal well before the ice storm. To maintain the desired 45% canopy throughout the city, 63 trees have been planted since January, with a year-end goal of 75.

Gomeau says repairs to the community forest and additional work in outlying areas could push the city's federal funding to $70,000 or more. The city of Augusta initiated a timely response to the crisis because of the lead work citizens had done beforehand. Dave Gomeau says, "A very important component of a sound community forest management plan consists of strong relations and partnerships with not only the different community departments but also with as many private corporate businesses as possible."

Gordon Chibroski

Farmingdale, Maine

Future Needs

Doug Rose

IT MAY TAKE *a decade or more to determine the full impact of the ice storm on the forests and communities of northern New England. Federal monies made available through state forestry agencies will provide relief to many forest landowners, but the needs of some will not be met and there are gaps in relief funding that need to be filled. The federal government issued a report in February 1998 entitled* "A Blueprint for Action," *which details these gaps and suggests a strategy for filling them. NEFA endorses this report and offers the following additional suggestions:*

- **THE STEWARDSHIP INCENTIVE PROGRAM (SIP)** helps landowners cost-share forestry work that is outlined in their multi-resource forest stewardship plan. SIP should include special practices to assist forest landowners to recover from natural disasters. These would include fire hazard reduction, hazard tree removal, and clearing debris from roads, ditches, culverts, and trails.

- **THE USDA FOREST SERVICE**, with an agreement from the State Foresters, could hold a portion of the SIP appropriation in a special emergency account. These funds could be made available through state Farm Service Administration offices within two weeks following a natural disaster.

- **SIP SHOULD CONSIDER THE NEEDS** of large landowners that must use the entire emergency allotment of $10,000/year to pay for a revised management plan, and have no funds remaining for debris removal and salvage.

- **FARM SERVICE ADMINISTRATION SHOULD CLASSIFY** timber as an agricultural crop. This would make landowners eligible for crop insurance payments and other emergency programs.

- **TRAINING PROGRAMS ARE NEEDED** for communities, homeowners, and utilities in proper placement, planting, and pruning of municipal trees.

Tom Thomson

Doug Rose

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  Website: http:\\ceinfo.unh.edu

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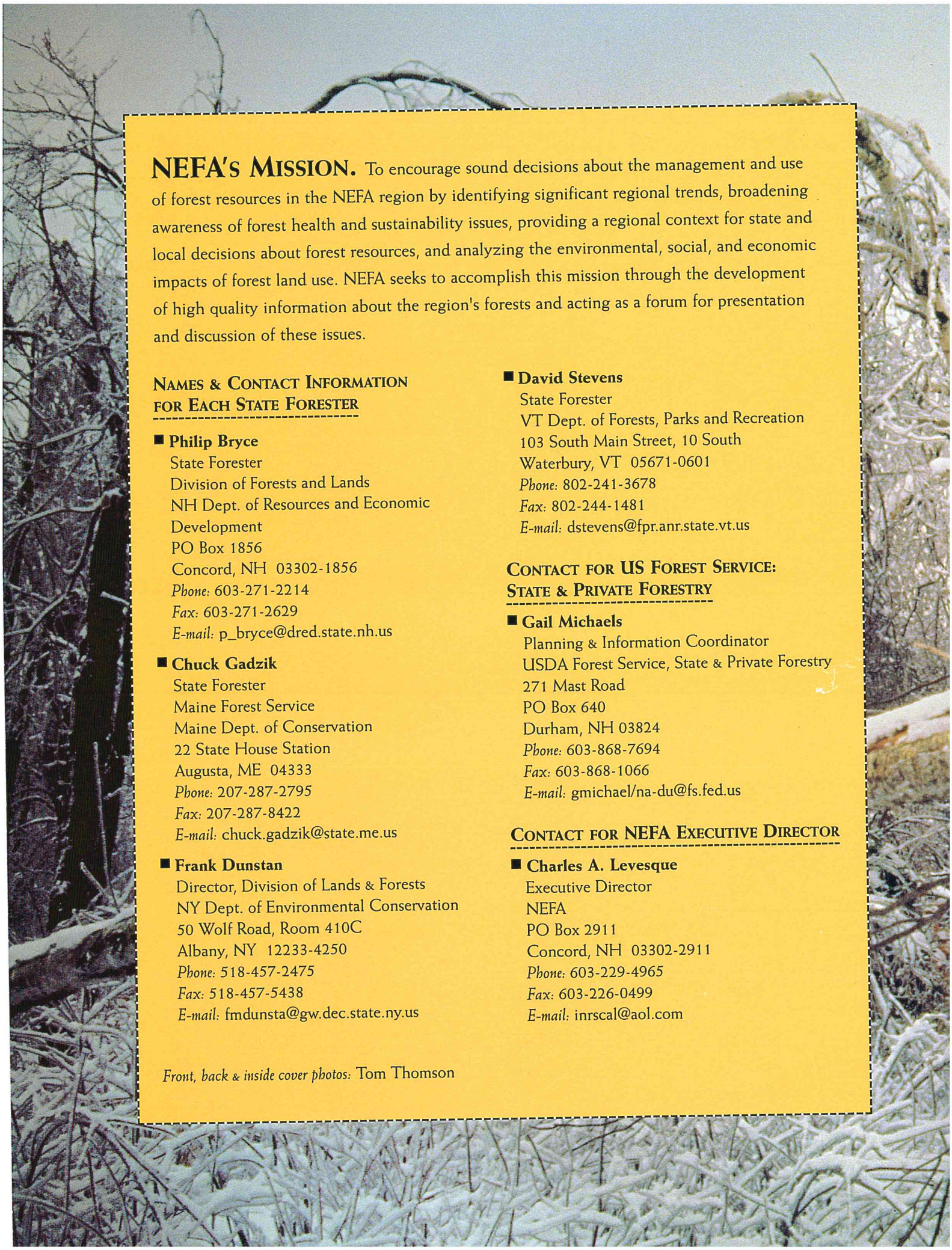
UNH Cooperative Extension



NEFA's Mission. To encourage sound decisions about the management and use of forest resources in the NEFA region by identifying significant regional trends, broadening awareness of forest health and sustainability issues, providing a regional context for state and local decisions about forest resources, and analyzing the environmental, social, and economic impacts of forest land use. NEFA seeks to accomplish this mission through the development of high quality information about the region's forests and acting as a forum for presentation and discussion of these issues.

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