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The Northern Forest Forum

Working for Sustainable Natural & Human Communities

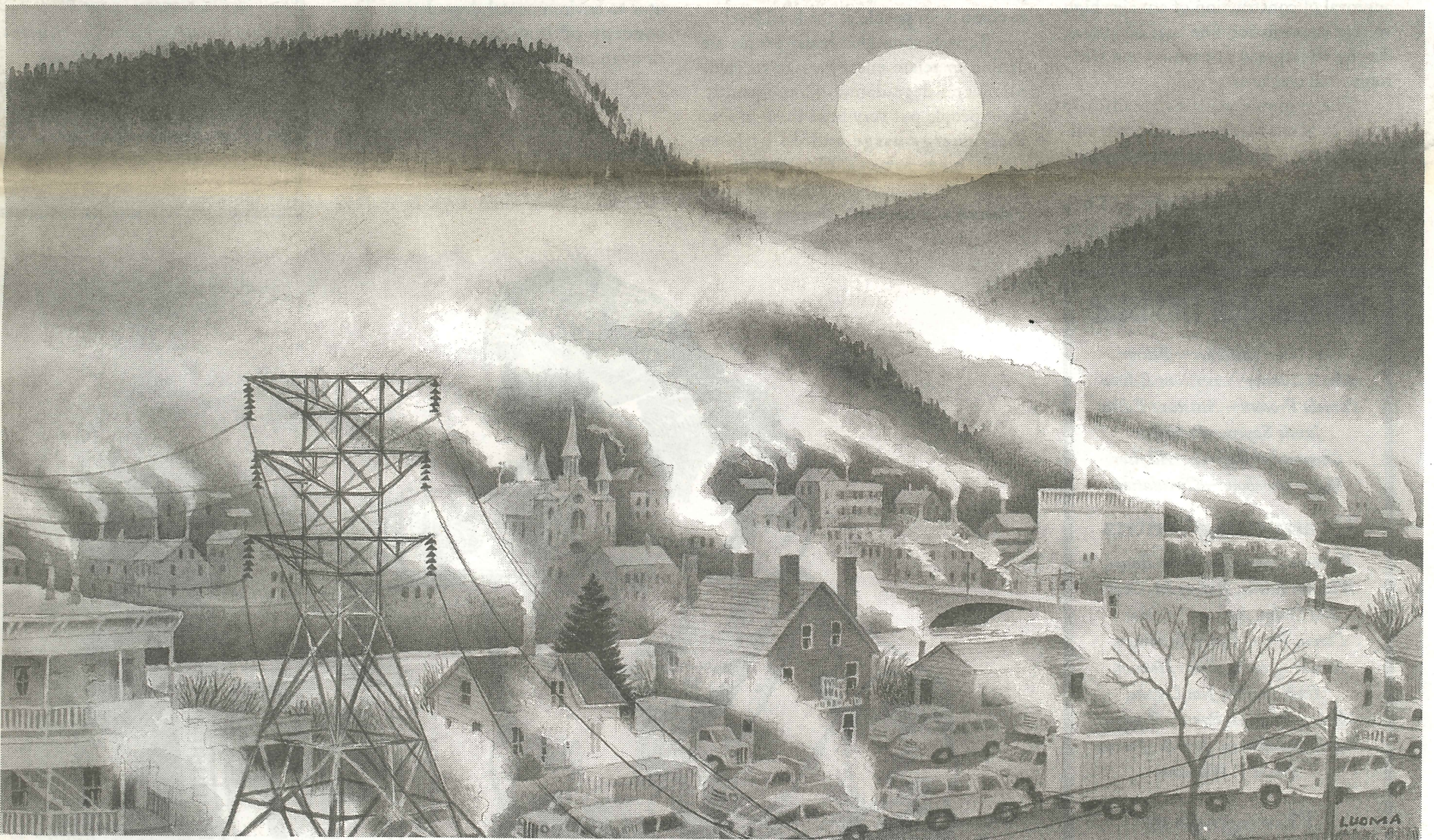
\$3.00

Mid Winter 1998

Volume 6 No. 3

Global Warming & the Pulp and Paper Industry

Impacts on the Carbon Budget
Of De-Forestation & Pollution
(pages 21-23)



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A Path Away from Ecological Disaster Toward Energy Independence & Self-Reliance

by Pamela Prodan

As I write this, twelve days after January's ice storm, tens of thousands of people are still without power in the region. Over 120,000 customers in Montreal are blacked out once again as a result of the failure of a major transmission line from James Bay. Outages are also being repeated in parts of Maine after a big snow storm.

The affected utilities have all proclaimed in the past week that the ice storm was unprecedented and unforeseeable. It did happen though, and it is unsettling that utilities are rebuilding the destroyed system just as it was before. The utilities' logic is that a similar storm is unlikely to happen again. Yet in the next breath, in defiance of its own logic, Hydro-Quebec is using the ice storm to justify its five-year plan, which includes billions of dollars of new construction.

Hydro-Quebec says it needs more river diversions because more generation capacity will assure power is available if parts of the system ever go down again. Using the fragility of the grid as grounds for a higher degree of interconnection, Hydro-Quebec also has been able to receive fast-track government approval of construction of a major high voltage transmission line near Montreal, despite widespread opposition and environmental concerns.

The region's utilities steadfastly refuse to acknowledge the inherent vulnerability of a highly centralized generation system linked to end users by a delicate spider web of wires. They assume that after the out of state crews leave, they will recover the cost of

repairs from consumers and go back to business as usual.

Cheap Electricity is a Recipe for Environmental Degradation

At times it seems we are about as far away as ever from developing a regional energy policy that fosters environmental justice and energy avoidance. Fortunately, the era of centralized energy sources is winding down because the hidden costs of nuclear and other large-scale energy sources are getting harder to ignore. But since such costs are still for the most part externalized, the restructuring of the electric utility industry threatens to increase the amount of acidifying emissions dumped on forests in our region from distant fossil fuel plants and accelerate Hydro-Quebec's megaproject construction plans.

Last month we found out that the Kyoto Protocol will not stop global warming and doesn't even come close. This month we learned that despite the region's outages, utilities don't want to consider alternatives like burying some lines and encouraging local or on-site generation. Solutions to our energy problems are not going to come from government or utilities. They will have to come from people at the local level.

Surveys show that many people are unable to relate energy usage to environmental degradation. Consequently, most people put very little thought into their energy usage and do little to change usage patterns. Many people are also unable to distinguish between convenience and necessity. During the out-

age, how many times did I hear people complain of not being able to take a shower, when all along they could have had a "dip bath" using a basin of warm water and a dipper? (Those of us who do not have a shower do this all the time whenever we don't want a "full bath.")

Most people who call for lower electric rates fail to recognize that electricity is cheap for the service it can provide. It is also cheaper in real dollars than it was fifty years ago. Electricity becomes expensive, relative to other energy sources, when it is used in applications in which electricity is expensive, such as those involving heat. These uses can usually be provided using other, cheaper fuels. Have the inconveniences of the power outage helped people to realize that electricity is a bargain for running pumps, furnaces, machines and lights?

Coops Point A Way Forward

North Americans have a contradictory attitude toward energy, not just electricity. Most people say they care about the environment, but many of those same people want their electric rates lowered and refuse to modify their motor vehicle use, also a heavy contributor to environmental degradation. The concept of lowering energy costs through more efficient use is hard to get across because it implies a sacrifice of convenience.

The importance of convenience in our culture is illustrated by the fact that people will pay \$100 per KWh to put batteries in their kids' toys. In reality,

electricity and other forms of energy are so cheap that there is little incentive to avoid their use, conserve or be more efficient. Unless people become more conscious of how much energy they are using and why they are using it, it will be very difficult to change the overall energy usage patterns of a society that has become seriously unsustainable and a poor model for future generations.

Coops represent an opportunity to supply consumers with information, alternative technology as well as energy—and in the process allow people to take responsibility for the impacts of their energy consumption. They also present an alternative to utility giants such as Hydro-Quebec to which the environment is an externality, or, in the case of our ice storm, a major inconvenience.

Pamela Prodan is an attorney who lives in Wilton, Maine and directs NARP's Renewable Energy Assistance Project.

Energy articles begin on page 21.

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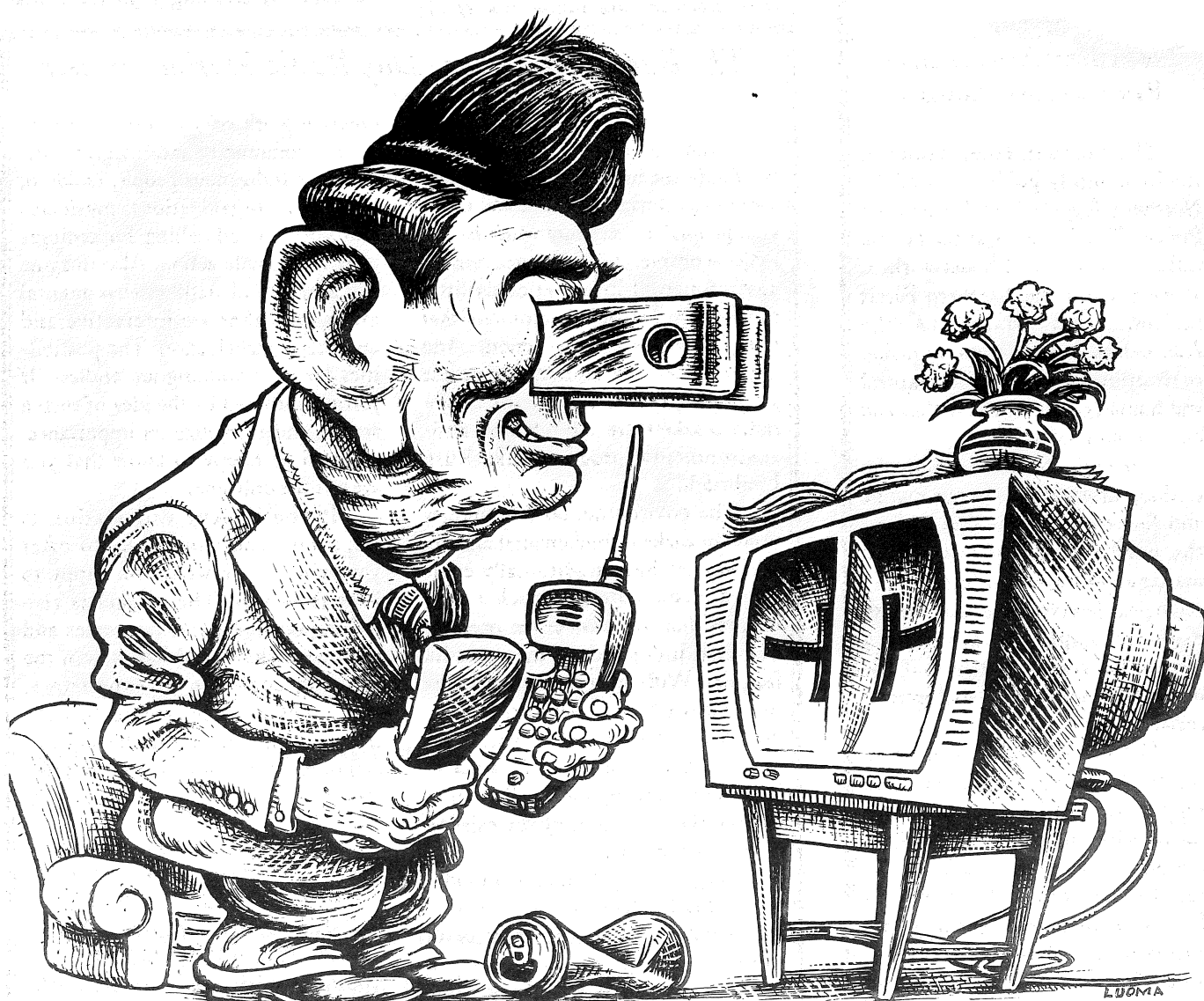
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The Northern Forest Forum is published six times a year by The Northern Appalachian Restoration Project
A Non-Profit Organization



Life is Good

Energy Addict. © Jon Luoma

Member of Society for the Protection of NH Forests Resigns Over SPNHF Support of Herbicide Spraying

To the Editor:

As a long time member of the Society for the Protection of New Hampshire Forests (SPNHF) I was shocked and dismayed to hear SPNHF Policy Director Charles Niebling testify on January 21 before the House Environment and Agriculture Committee in favor of broadcast aerial spraying in our Northern Forest.

Aerial herbicide spraying is the least selective and the most damaging of all application methods. Only 40% of the toxic mixture actually reaches the target plants: the rest injures non-target organisms, harms forest ecosystems, and ends up in streams, ponds, or wetlands where it can remain for years. Herbicide drift can injure crops and gardens.

Using sulfonylureas and other ALS inhibiting herbicides in aerial spraying programs is an especially risky practice. A hundred times more potent than atrazine, these chemicals can damage non-target plants in such small amounts that no residues can be found in soil and water of the injured crops. Nationwide there have been hundreds of cases where non-target plants have been damaged by this type of herbicide drifting many miles from the spray area. A 1994 EPA memo warns that these herbicides should not be used in spray programs. Vermont has banned all aerial spraying of herbicides.

Before he joined SPNHF Mr. Niebling was Executive Director of the New Hampshire Timberland Owners Association (a group that favors aerial spraying) and a consultant for

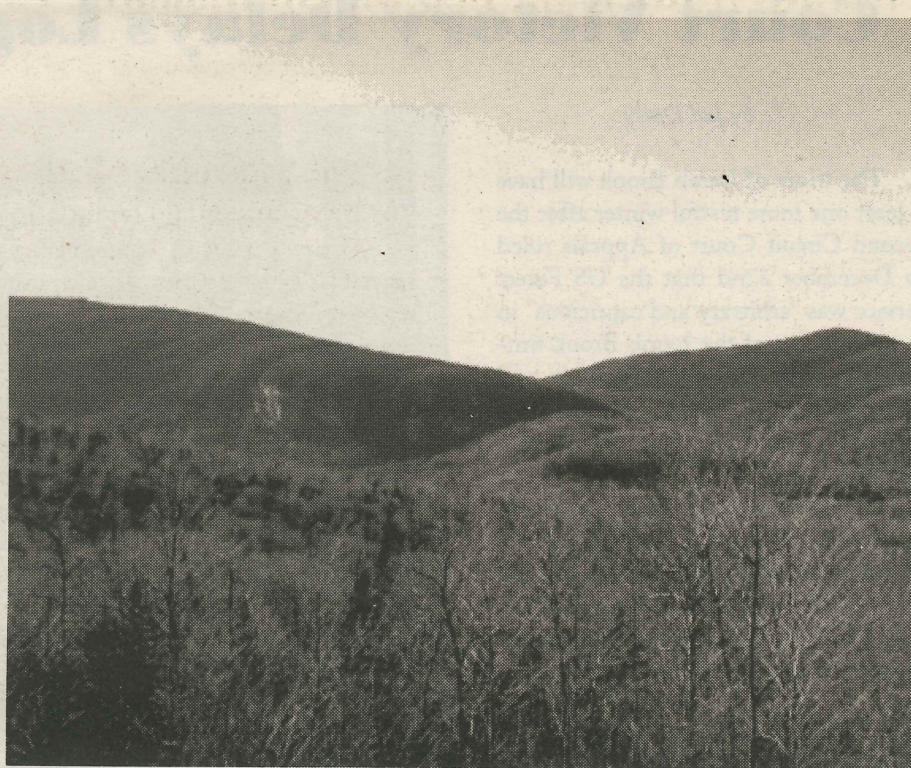
Champion International (a group that does aerial spraying). Was he speaking for these special interest groups or was he speaking on behalf of the Forest Society? I urge readers to call SPNHF (603-224-9945) and express their concerns. Meanwhile I am canceling my membership until the Society takes a more responsible and scientific position on this important environmental issue.

Caroline Snyder
Sandwich, NH

Ed. Note: Paul Doscher of SPNHF has asserted in a Concord Monitor "Forum" piece (Sunday, September 6, 1997) that spray opponents have created a "tempest in a teapot" over paper company spray plans and actions in New Hampshire. He cites the "low-risk" chemicals used, the small acreages involved, and the alleged lack of residents in spray areas.

In Vermont, spray opponents were able to utilize the tools of democracy in effectively refuting these and other fallacious and (at best) weak arguments. New Hampshire has yet to grant standing to its own citizens in matters relating to pesticides—a lame view of democracy to say the least. Readers of the Forum will recall a systematic effort by New Hampshire government to narrow the debate and marginalize citizen involvement in pesticide policy. Champion International used its local clout to disinvite anti-spray activists at a Colebrook, NH forum last spring.

Vermonters raised successful arguments against spraying early successional stands of forest from the vantage point of forest productivity and ecological integrity. These arguments were joined by many from within the forest industry. SPNHF seems to grant no credence to the complexities of forested ecosystems and instead is accepting



The Stratford Range, part of Champion International paper company lands presently on the market in northern NH & a golden opportunity for securing wild-lands. Photo © Emily Bateson

the imperatives of industrial fiber forestry to grow softwood faster to make up for over-cutting. We agree that SPNHF members ought to query their organization's staff and board members on this curious position.

Environmentalists Also Guilty of Over-Consumption

To the Editor:

No doubt Mr. Verdeber, whose letter appears in the Winter 1997 issue believes "By and large, environmental-

ists live in smaller homes, have more modest lifestyles, drive smaller and older cars, have fewer children . . . than those who see only the commodity value of our natural world." Perhaps he lives this philosophy.

However, I respectfully disagree with his generalization. It is my experience that the self-anointed environmentalists are often the well fed, well off, fragmenting habitat to build larger than necessary homes on "their" 30, 40, 50, acres, oblivious to population concerns and frequently found driving mini vans. Ironically, the Sierra Club may vote this spring on a proposal to support limiting immigration because, they claim, immigrants have too many children. Frankly, I know too many environmentalists who have 3 or more children.

The point is that the environmental and protection movement is very much driven by the interests of the wealthy. The class issues of who benefits from these efforts is not addressed. Perhaps a critical examination of who runs environmental organizations and who really benefits would be enlightening.

Finally I would note that Shelburne, a rather comfortable community, was able to raise \$450,000 in a relatively short period of time to protect less than 200 acres from development. Has anyone seen or heard of a similar fundraising effort to provide affordable housing for some of the 4,000+ Vermonters who were homeless this year?

Ginny McGrath
Montpelier, VT

Editor's Reply: Thank you for raising many excellent points about over-consumption among (shhhhhhh. . .) environmentalists. The argument that environmentalism is driven by elitism does not refute the fact that growth economics is even more classist, and that the poor often bear the brunt of environmental degradation which they cannot afford to flee. The more simple life advocated on pages 17 & 18 by Michael Phillips can go a long way to redressing human impact on fellow beings of all species.

Mission Statement

OF THE
NORTHERN APPALACHIAN
RESTORATION PROJECT

The Northern Forest Forum is the bi-monthly publication of the Northern Appalachian Restoration Project. The Project and the Forum reflect the work of a network of activists across the Northern Forest region, from Maine to the Adirondacks. Our common mission is to promote sustainable natural and human communities within and beyond our borders.

Currently NARP activists are working on initiatives in our marine and forest ecosystems that address the need for ecologically based management and wilderness and ecological reserves. We also seek to promote implementation of a responsible energy system that has minimal environmental and optimal social impact.

The Forum seeks to promote sustainability in all its forms and support the work of all who labor for positive change. The Forum is the only regional publication dedicated to exploring the Northern Forest as an area of local, state, national and global significance. The Forum intends to foster regional cultural identity through celebration, protection and restoration of our native ecosystems.

The Earth Day Every Day Radio Station Project

With PBS & NPR shirking social and environmental responsibility, who in the mass media will provide a voice to inform, mobilize and motivate people? It certainly won't be the major commercial networks, whose environmental information is little more than info-entertainment that rarely generates positive action. And the networks that do motivate people are playing for the other team. Major radio markets are saturated by anti-environmental programs like Rush Limbaugh.

The environmental community needs to make a fundamental shift in the way we have traditionally envisioned media outreach. Such a shift requires that we consider the need for our own independent mass media facilities. Without independent facilities that reach large numbers of people on a consistent basis, voices for environmental change will continue to be marginalized by the small amount of time they are given by the existing mainstream media.

Imagine the potential of an independent radio station devoted to environmental programming. Think of all the activists and organizations you know whose voices have been completely ignored or effectively marginalized by the mass media. Now imagine a radio station that highlights the

creative work of a diverse environmental community and integrates the voices of Indigenous people, children, Christians, organizations, musicians and scientists all calling for ecologically responsible action. Also imagine the benefits of daily environmental talk-shows that are interactive and encourage participation. The possibilities for programming are endless. If you are enthused by the idea of such a station and recognize its importance, you will be happy to know that you are not the only one.

If you believe this station is important and would like to offer your talents, we would be happy to hear from you. The project is also seeking organizations, businesses and musicians who would like to join the growing coalition of supporters. Musicians are also invited to contribute environmental, Indigenous or empowerment songs to the eco-audio inventory.

For more information, contact:
Traci Hickson & Dennis
Hendricks/Project Coordinators
PO BOX 130 Bar Harbor, Maine
04609 Phone: 207-288-5061
<http://www.downeast.net/com/earth-day>
Email: earthday@downeast.net

Time to Protect Bears of Lamb Brook Forever Court Victory Delays Logging; But for How Long?

by Jad Daley

The bears of Lamb Brook will have at least one more restful winter after the Second Circuit Court of Appeals ruled on December 22nd that the US Forest Service was "arbitrary and capricious" in its preparation of the Lamb Brook timber sale, which would put roads and clearcuts into a 5,500 acre roadless wilderness on the Green Mountain National Forest.

This momentous court decision, the first of its kind in New England, provides the public with one last chance to convince the Forest Service to leave our publicly owned Lamb Brook roadless area alone forever.

Home to Black Bears

In a decision issued December 23rd, the US Court of Appeals for the Second Circuit ruled that a US Forest Service proposal to build roads and log in the Lamb Brook Roadless Area violated the National Environmental Policy Act (NEPA). In the decision, the court stated, "In sum, we agree that the Forest Service violated NEPA by failing to adequately consider all relevant environmental factors prior to making its finding of no significant impact. . . ."

With this decision, the court brought to an end the legal phase of the three year long battle over one of the last large roadless areas left in the Northeast.

However, like a horror movie character, the Lamb Brook logging sale has continued to come back to life time and time again, no matter how many times it has been hooted down by the public or defeated in court. This latest victory does not preclude the Forest Service from logging the area, but simply provides the public with one more chance to convince the agency to abandon the project altogether.

Lamb Brook is an area located on the Green Mountain National Forest, southwest of Wilmington, VT. As one of southern Vermont's most remote areas, Lamb Brook is an ecological jewel, critical to the survival of black bear, interior dependent songbirds, and many other species. Albert Manville, a renowned bear biologist, testified that, "In all my work assessing bear feeding habitat in New England, Wisconsin, Michigan, or elsewhere in North America, I have never seen such a heavily bear-utilized stand of American beech as this one in the Lamb Brook area."

Forest Service Philosophy Driven by Timber Targets

So why would a public agency that is legally charged to manage the National Forests in the "combination of uses that best serves the American people" choose to destroy this critical wildlife habitat with road building and clearcuts?

The answer is complex, a mixture of history, financial incentives, and misguided science. The Forest Service has historically seen its role as actively managing the land. Letting the Lamb Brook



wilderness "manage itself" simply is not consistent with the anthropocentric ethic of the agency. The Forest Service also has a financial incentive to log the area. Even though the sale would be a

money loser for the Treasury, the agency's budget would increase.

As Kathleen Diehl, a planner for the Forest Service in Vermont said in the Boston Globe, "When we don't

make our timber targets, we don't move forward with the appropriations money." So, money losing timber sales for the public can still be money makers for the Forest Service.

In the name of managing for species diversity, the Forest Service is systematically "disturbing" the forest to provide for species that need young forests. This management strategy clearly misses the point conservation biologists across the country have been making for years: we must protect interior forest habitat on public lands, because large blocks of forest on private land are a scarce and rapidly diminishing ecological asset.

To protect diversity we must protect our rare old forests and roadless wilderness areas. These are the ecosystems that are diminishing, the ecosystem types crucial to survival for dwindling species like the Pine Marten, Scarlet Tanager, and other interior-dependent species.

Wake Up, Don't Snooze, Act Now

The Second Circuit Court of Appeals, like the Federal District Court in Brattleboro, rejected the Forest Service's proposal as insufficient in its consideration of the impacts of building roads and logging a 5500 acre wilderness. The Appeals Court said, "We, like the district court, are left with the firm conviction that the Forest Service could not have adequately considered the significance of its proposed action's impact on the environment." and, "What impact the Forest Service's proposed action will have on the birds, the bears, and the existence value of Lamb Brook is not clear. . . ."

The key for the public, however, is to use this victory as a wake-up call, not a snooze button. The National Environmental Policy Act on which the case was won does not preclude environmentally destructive activities. It merely requires a government agency to reveal all of the environmental impacts of any proposed federal action. Therefore, our victory has really only delayed the project, unless the conservation community mobilizes now.

Let's give the Forest Service the benefit of the doubt, and encourage the agency to cancel the Lamb Brook project. Let Mr. Bartelme know that any logging that does occur on the Green Mountain National Forest should be steered away from roadless areas, wilderness areas, and important recreational areas.

Write to:

James Bartelme, Forest Supervisor
Green Mountain National Forest
231 North Main St.
Rutland, VT 05701

For more information on what you can do to help, please contact:
Jad Daley, Outreach Director
Green Mountain Forest Watch
48 Elliot St.
Brattleboro, VT 05301
802-257-4878

BOWATER TO SELL ONE MILL & DUMP HUNDREDS OF WORKERS FROM ANOTHER

On January 29, the shoe finally dropped. After years of speculation, Bowater, Inc. said it would try to sell its Great Northern Paper mill in Millinocket. If a buyer can be found, this will be the third ownership change in eight years. The century old mill was the largest papermill in the world when it was built in the middle of the Maine wilderness a century ago. Today it is not competitive with larger, faster mills in other third world economies. The news leaves the future uncertain for 800 workers at the Millinocket facility.

At the same time, Bowater said it will invest \$220 million to build a new thermomechanical pulp plant in East Millinocket and upgrade its mill in that town. The changes will not expand the company's capacity, but Bowater expects to be able to make the same amount of paper cheaper. That is because the changes will result in the elimination of up to 300 more jobs, nearly half the workforce there. The Portland Press Herald quoted one Wall Street analyst, Mark Wilde of Bankers Trust, who pointed out that in the global economy, "If they don't bring costs down, East Millinocket could be like Millinocket in the long run."

Even before this latest round of downsizing, more than 2,000 jobs had already been cut by the various owners

of the Great Northern mills and lands in the past decade and a half. Herb Clark is a former state representative, currently is head of the Millinocket Town Council and has worked in the Great Northern Mill for 32 years. Clark says he has no idea where hundreds of people are going to find jobs in the area.

Tim Smyth, who is with the local electrical workers union, is more blunt. He says one of the previous owners, Great Northern Nekossa, "raped us and threw us in the woods." According to the Bangor Daily News, Smyth only blames current owner Bowater for selling Millinocket "down the drain."

Once again it is clear that the economy of northern Maine needs to be diversified. One action that would help pull the region out of the doldrums is creation of a new Maine Woods National Park. An economic study of the park idea shows that it could help generate between \$109 million and \$435 million in annual retail sales, and it could support 5,000 to 20,000 jobs. Perhaps the governor and congressional delegation will see the wisdom of working for establishment of a Maine Woods National Park before the forest products industry in the Katahdin-Moosehead region collapses completely.

—Jym St. Pierre

Anatomy of a Victory: How the Orleans Mountain Roadless Area was Spared

by Ryan Henson

The Forum re-prints this (much shortened) story from the West Coast's Wilderness Record, published by the California Wilderness Coalition. It tells a story of US Forest Service obduracy in pursuing a salvage timber sale in a roadless area on the Six Rivers National Forest. While the parallels to the Green Mountain's Lamb Brook case may not be perfect, the similarities draw a compelling case for systematic reform of the Forest Service.

(The California Wilderness Coalition seeks to promote legally designated wilderness throughout California. The Coalition's address is 2655 Portage Bay East, Suite 5 Davis, California 95616.)

After nearly sixteen months of struggle, conservation activists were finally successful recently in thwarting the Forest Service's plans to log the Orleans Mountain Roadless Area in the Six Rivers National Forest.

The evolution of this final victory is a tawdry tale of agency stubbornness and misplaced determination which all began in the winter of 1995-1996 when a series of violent storms toppled thousands of trees in the largely roadless Horse Linto and Tish Tang A Tang creek watersheds in the Six Rivers National Forest. The Forest Service planned to remove 11 million board feet of the fallen trees from a designated late-successional reserve and other key wild lands. By comparison, the Six Rivers National Forest normally logs 15 million board feet of trees from the entire forest.

The Forest Service claimed that if left to rot, the fallen or leaning trees posed an unnaturally high fire hazard that, if a fire occurred, would wipe out the sensitive fish and old-growth habitat in the area. The agency had no proof for its theory, and had failed to explain why this perfectly natural phenomenon never wiped out forests before salvage logging came along. Despite this, they moved aggressively to log the area using the authority of the infamous "salvage rider" which exempted such projects from environmental laws such as the Clean Water Act and Endangered Species Act.

As a result, the agency planned this large-scale logging in watersheds that are important steelhead trout spawning streams, are known to host pine marten, Pacific fisher, northern spotted owls, and other old-growth dependent species, and comprise one of the largest remaining pristine wild areas in California. The Forest Service planned to pull fallen trees directly out of streambeds, from steep canyon walls, from land-slide prone soils, and other areas that aquatic scientists and forest ecologists have long urged the agency to avoid.

The first phase of the project involved the removal of trees that had fallen across roads. While implementing this normally non-controversial operation the Forest Service began logging so aggressively that they angered not only conservationists, but other federal agencies as well. For example, phase one of the Horse Linto logging project



"Destructive lumbering in the Coast Redwood belt, Humboldt County, Cal." From U.S. Department of Agriculture Farmers' Bulletin 173. A Primer of Forestry, Part I: The Forest, by Gifford Pinchot, June 1909.

was supposed to clear roads of fallen trees, but in many cases the agency strayed far from the roads—dragging as many trees as they could up to the waiting log trucks. Doing so violated an agreement the Forest Service had with the U.S. Fish and Wildlife Service (FWS) which was concerned about potential loss of habitat for the many endangered species living in the area such as the northern spotted owl. The FWS came quite close to citing the Forest Service for violating the agreement.

Voluntary Legal Compliance

The final phase of the planned logging operation involved cutting in the Orleans Mountain Roadless Area and other key wild areas. However, this would violate a directive from Secretary of Agriculture, Dan Glickman ordering the Forest Service to refrain from logging roadless areas under the Salvage Rider (the Forest Service is an arm of the United States Department of Agriculture, or USDA).

In response, the then supervisor of the Six Rivers, National Forest, Martha Kettle, flew to Washington, D.C. to

personally lobby for an exemption from the Secretary's directive. Staff members of the Northcoast Environmental Center (NEC), CWC, the Western Ancient Forest Campaign (WAFC) and other groups lobbied the USDA as well. Sadly, Ms. Kettle won the war of words and was granted permission to log the roadless area.

Paul Spitler formerly of WAFC and now CWC's executive director, furiously sought to find ways to halt the cutting [other than public protest]. In late 1996, Spitler discovered an obscure provision in Forest Service policy requiring the agency to conduct surveys for the Del Norte salamander prior to any "ground disturbing activities." Since the Forest Service was unable to dodge this provision, Ms. Kettle "voluntarily" withdrew the project. As Paul Spitler later put it, "How nice—they 'voluntarily' decided to comply with the law!"

Flawed Zoning Plan Deletes Protection for 5,000 Acres

Proving the maxim that conservation is the art of delay, the Forest Service revived the sale in early 1997 after the infamous rider had expired.

Now, the agency had to comply with our nation's environmental laws, and activists were waiting with law books in hand.

A national forest's LRMP is designed to guide all of the Forest Service's activities based on a zoning system similar to a city or county's general plan. For example, some areas are zoned for intensive logging, while others are zoned for ski resorts, ancient forest reserves, stream protection, or other uses. LRMPs also identify roadless areas and zone them for various uses, although rarely for protection.

The Six Rivers LRMP asserted that many of the forest's roadless areas no longer exist because they have been logged and filled with roads. The problem is that the Forest Service offered no real evidence to support these claims, and conservationists confirmed that, to the best of their knowledge, the Orleans Mountain Roadless Area is still roadless and pristine. When the LRMP did offer evidence, it was confusing and contradictory at best.

For example, the Six Rivers LRMP merely mentions that while logging and "short" spur roads have affected 800 acres of the Orleans Mountain Roadless Area, "natural integrity generally has been maintained." Despite this, the plan asserted that 5,000 acres in the southern portion of the roadless area no longer existed because of the previous logging [and so would be salvaged].

Documents provided to CWC also revealed that the decision to drop the 5,000 acres came not in a legally valid environmental impact document, but in a September 22, 1994 e-mail message between Forest Service staff which simply stated that "Larry says to remove the entire part of the south area [sic] that is south and east of Horse Linto Creek." Thus, 5,000 acres of roadless land were removed without any public input or environmental considerations. "This was one of the worst examples of arbitrary decision making we have ever encountered," said Henson in a letter to Martha Kettle.

Despite these scathing objections, the Forest Service pushed ahead with the project. Anthony Ambrose prepared an administrative appeal of the proposed timber sale covering every issue from water quality to endangered species, with CWC writing the section on roadless areas. Along with Tim McKay, Ambrose and others met to negotiate the appeal with the Forest Service. The agency scaled the project back significantly by withdrawing the proposed roadless area and offering more protection for the Del Norte salamanders. After months of hard work, conservationists could finally breathe a sigh of relief.

The Six Rivers National Forest has a fairly "green" reputation. Indeed, a major national environmental group hailed the Six Rivers LRMP as the best such document in the nation, which demonstrates how truly inadequate other LRMPs are. Perhaps by sparing the Orleans Mountain Roadless Area, the Six Rivers National Forest can now make a new start in both its philosophy of land stewardship and public relations.

Below Cost Sales & the Conservation Community

One thing that has not diminished is the argument between the forest industry and conservationists over below-cost timber sales on our national forests. The Wilderness Society calculates we taxpayers spent \$1.1 million in 1996 to subsidize timbering in the White Mountain National Forest on the Maine-New Hampshire border. That is more than double what we lost just four years earlier. The US Forest Service righteously says the loss was only \$756,000, as if that is more acceptable.

Logging and road building in our national forests countrywide since 1991 have cost us \$458 million. A vote in the US Senate in September to curtail most taxpayer-financed road construction in national forests failed by a single vote. A new study by

Common Cause reveals a curious correlation: Senators who voted against cutting off roads spending have received an average of \$27,337 in political contributions since 1991 from the forest industry. The \$10 million spent by the timber lobby on Congress was a bargain. They received more than \$100 million in discounts on trees cut and roads built on the public's national forests. That is a 10-to-1 payback on investment.

Meanwhile, the White Mountain National Forest has started the process of updating its management plans. Some conservationists want to push for more Wilderness. (Contact The Wilderness Society, 45 Bromfield Street, Suite 1101, Boston, MA 02108.) Others believe it is time to shift oversight away from the US Forest Service altogether.—JSP

RESIDENTS WANT FORESTS PROTECTED FROM DEVELOPERS

by Robert M. Cook

Laconia— More than 20 Belknap and Carroll county residents told a committee studying timber liquidation that they want the state to adopt tougher regulations to stop developers from destroying potentially thousands of forest acres.

The public information session Tuesday held by the Timber Liquidation Subcommittee of the state Forest Advisory Board at the Belknap County Complex was the last of four statewide meetings and provided the most input, according to facilitator Charles Levesque.

Subcommittee chairman David Publicover said the problem of developers purchasing large tracts of land, completely clear-cutting them and reselling them to make a quick profit, is no longer confined to Coos County.

Several Sandwich, Tamworth, Ossipee and Effingham residents claimed logging firms from Canada, Maine and Vermont have carried out some form of timber liquidation in their communities who are powerless to stop it.

Timber liquidation is the term used to describe a harvest that takes most or all of the marketable timber from a woodlot without consideration of future timber values.

Publicover said the subcommittee would turn over its recommendations to the state Forest Advisory Board sometime [this] year and the FAB will decide whether to pursue new regulations to prevent timber liquidation.

When asked if they believe timber liquidation is a problem for New

Hampshire, almost everyone agreed it is.

"I don't think New Hampshire has as strict laws as Vermont, Maine or Quebec (Canada)," said Blair Folts of Effingham.

She maintained that forested land is cheap in the Freedom, Madison, Ossipee and Tamworth area and very attractive to developers who buy it, liquidate all the timber to create Mount Washington vistas and then resell the land for much more than they purchased it.

Carroll County Forester Peter Pohl of the University of New Hampshire Cooperative Extension Service said very little thought is being given to regeneration of the trees cut or affected wildlife habitat.

Pohl said the damage done to the 200 to 500 acre tracts in question and smaller tracts could be felt for 100 years.

Belknap County Forester Sumner Dole of the UNH Cooperative Extension Service said if timber liquidation is allowed to continue, it will rob the Granite State of one of its most vital natural resources.

"It's a lost opportunity for us to optimize our forest values for the present and the future," said Dole.

When Levesque asked for examples where residents believe timber liquidation has taken place, they helped him fill three large pages on his flip chart pad.

Folts claimed three 250 acre tracts of forest in Effingham were liquidated last summer and a 650 acre tract is being liquidated now in Madison.

She said selectmen in these towns do not know enough about New

Hampshire's existing timber laws to make sure proper and legal guidelines are followed. Some towns have also not collected the appropriate amount of timber tax owed by these developers, claimed Folts.

Pohl claimed several tracts of land in Sandwich have also fallen victim to out-of-state developers.

He claimed a 500 acre parcel on Trask Hill was liquidated by a Vermont firm last year and this year, and resold for twice the amount of the original sale price.

Pohl said 500 acres in Ossipee and Wolfeboro were also liquidated in 1995 and 1996 by an out-of-state developer.

Smaller tracts of land have experienced timber liquidation in Gilford, Sanbornton, Northfield, Gilmanton Iron Works, New Hampton, and Canterbury, according to Dole.

Folts said the state needs to give selectmen more authority to stop liquidation activity. She said the state also needs to enforce existing laws faster than they do now to prevent irrespons-

ble developers from skipping town.

Folts suggested the state require developers to post a bond equal to the timber tax owed to insure communities will receive all revenues before any timber is cut.

A sliding timber tax scale could be implemented to reward responsible forestry practices, she said.

Brian Hart of Madbury said a limit on the amount of trees to be cut on large tracts of land similar to a law recently passed in Vermont could work well here.

He said towns should also have the flexibility to craft their own forestry ordinances that address their community's needs.

Levesque said the subcommittee conducted three other public information sessions in Exeter, Lancaster and Hillsboro before holding its last one in Laconia.

Abridges & reprinted with permission from the (Laconia, NH) Citizen, December 3, 1997

Toward Sustainable Forestry in Nova Scotia

The Nova Scotia government announced in a position paper October 7 that it was considering a host of regulations aimed at measuring and controlling woodland harvesting.

Natural Resources Minister Ken MacAskill said the purpose was to "ensure that harvesting on all woodlands does not exceed the capacity to grow timber."

The new rules, if implemented, would have anyone buying more than 450 cords of wood a year for the domestic or export market registering with the government and filing an annual "wood acquisition plan" outlining how their source of supply is sustainable. They also would be required to provide assurance that "adequate arrangements are in place for the required silviculture on lands from which they obtain wood."

The Nova Scotia paper was made public at a press conference at the provincial forest nursery in Strathlorne the same day Joe O'Neil and his National Round Table "State of the Debate" committee was presenting its report on private woodlot management in the Maritimes in Fredericton.

The NRT report singled out Nova Scotia as the province with "the least reliable information on the amount of wood harvested or its markets," making it "unable to plan effectively."

NSDNR's position paper, titled "Toward a Sustainable Forestry,"

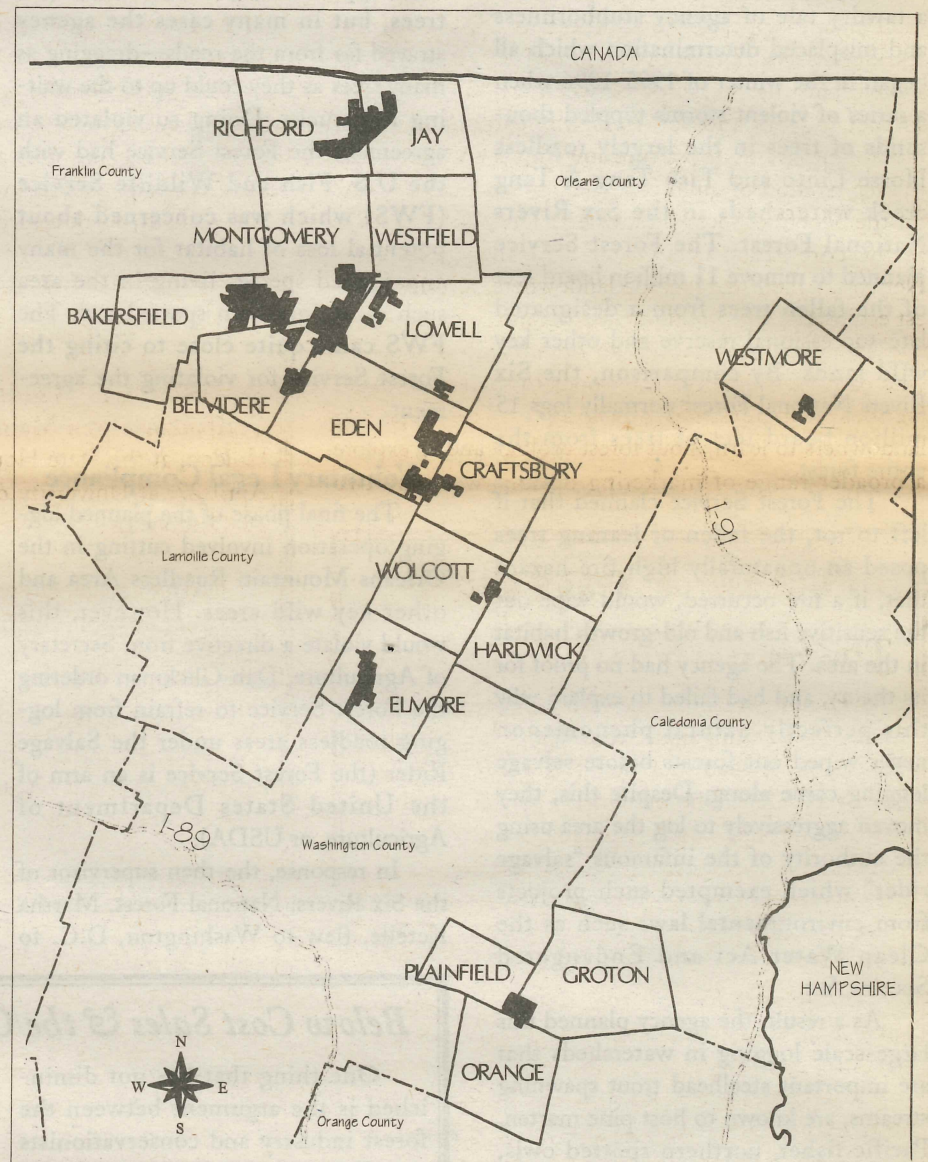
revealed that the province has known for some time softwoods were being overharvested, and that the cut in 1995 (at 4.8 million cubic meters) exceeded the allowable cut by a million or more cubic meters.

In addition to establishing a buyer registry, the paper proposes a number of "improved forest management practices," including the drafting and implementation of a "comprehensive forest practices code," that would include, and make mandatory on private lands, the "Forest/Wildlife Guidelines and Standards" presently applied on Crown lands and private woodlots participating in silviculture incentive programs.

Wade Prest, head of the Nova Scotia Woodlot Owners Association, suggested in another *Chronicle* story that the proposal might not go far enough. "If we have ten steps to correct our problems of forestry," he told reporter Susan LeBlanc, "that (the DNR) release would be maybe two of ten."

Copies of the position paper are available at DNR offices throughout Nova Scotia. Send comments or suggestions to NSDNR, attention Sustainable Forestry Project, Box 698, Halifax, NS B3J 2T9.

Abridged & Reprinted by permission from the Atlantic Forestry Review October 1997



Atlas Timberlands Partnership Acquires 26,789 Acres of Timberland

The Vermont Nature Conservancy and Vermont Land Trust announced in December their joint acquisition of 26,789 acres of northern Vermont forest land from the Atlas Timber Company. Funded by a \$5 million Freeman Foundation grant, the new Atlas Timberlands Partnership has announced its intention to manage the land for forest products in the context of biological integrity and local community needs.

The partnership views the purchase as an opportunity to demonstrate the compatibility of both economic and ecologic goals through long rotation, sawtimber silviculture. The land is currently managed under contract by Wagner Woodlands. Silvicultural objectives subsequent to past high-grading of sawlogs on these predominantly hardwood sites have been improvement cuttings and sale of hardwood pulpwood. Project managers Carl Powden of the Land Trust and John Roe of the Conservancy emphasize that planning for the land is in early stages and that management continuity is their short-term objective.

Multiple conservation groups have expressed interest in working with the partnership to promote ecologic restoration and sustainable forestry. The lands could conceivably function as protected corridor, buffer or transitional forest between core wilderness reserves centered on public land in the Groton State Forest and Jay Peak areas.

—A.W.



Vermont Citizens' Forest Roundtable Organizes Low-Impact Loggers' Guild

The Vermont Low Impact Loggers' Guild held its first meeting in early January in an atmosphere of genuine *positive energy*! An enthusiastic group of loggers and landowners met in Barton, Vermont to discuss how a guild could become a model for the state by setting standards for Vermont's logging community.

Some of the goals of the group included the promotion and support of each other's work within a professional network; the formation of long-term forest stewardship partnerships between landowners, low-impact loggers and foresters; the establishment of mentor programs for future low-impact loggers; and the registration of guild members at town clerk offices for the benefit of local landowners. The guild will serve as the core group of a larger Low Impact Forestry Network which will include landowners, foresters, forest ecologists, and wood manufacturers.

The evening provided an opportunity for people who earn their living in the woods to share their experiences and personal challenges. The need for landowners to learn about forest ecology and to explore a broader range of marketing options were the two

most common themes discussed during the meeting. Steve Parker, an organic Christmas tree grower and manager of a large woodlot in St. Johnsbury cited landowner workshops as a critical component of the group's public outreach effort. Marketing wood for the best end-use and creating more innovative ideas for small wood businesses are also critical because "Loggers and landowners need good economic advice for good choices."

The guild's twelve member steering committee will be focusing on the issues of setting standards for low-impact logging outreach and education and marketing/economic strategies at their next meeting. The guild plans to work closely with Maine's Low Impact

Forestry Project and to promote the goals of ecosystem management on a regional level. VCFR encourages participation from individuals, groups, and organizations interested in the promotion of low-impact forestry practices and a roll-up-your-sleeves effort on behalf of our forests and forest communities. We have a lot of great work to do together.

For more information please contact VCFR's Barbara Alexander at 802-586-2288 or Andrew Whittaker at 802-748-8043.

—Barbara Alexander

New Feature

The Grassroots Activist Page

The Forum welcomes news & updates of grassroots activist campaigns from across the Northern Forest. Please send short items to NFF POB 72 E St J, VT 05838. Submissions of greater length are most appreciated on mac-readable disks.

Exhibits & Events

***Working Traditions: Century-Old Craftsmanship in Maine**, photo exhibit by Lia Holden, at the State House, Augusta, January 12-April 27; at University of Maine, Orono, August 18-October 18.

***Alternative Paper Conference**, at Bates College, Lewiston, April 4, call Heather 207-882-6848.

***Exhibit on Maine Women Nature Writers** in conjunction with a national conference on American Women Nature Writers, at Westbrook College, Spring 1998.

NEW HAMPSHIRE HERBICIDE PROJECT UPDATE

In the summer of 1997, local residents once again challenged aerial herbicide spray permits in northern New Hampshire. This time, citizen's standing to appeal was successfully challenged by Mead Corporation. Standing was granted to a couple who directly abutted the proposed spray area, who withdrew their appeal after a private conference with a Mead representative. Champion International and Mead Corporation both conducted aerial spraying during 1997.

In response to the Division of Pesticide Control's heated defense of aerial spraying, the Herbicide Project is conducting an in-depth investigation of Division compliance with its mandate to protect environmental quality and human health, and its ability to regulate the aerial spray projects for which it has issued permits since 1987. It is our belief that the Division has not and cannot fulfill its mandate with regard to aerial spraying. In addition to Right-To-Know requests for Division documents, the Herbicide Project has filed Freedom of Information Act requests with the US EPA for lists of inert ingredients and data on drift from aerial applications during Spray Drift Task Force studies.

In the meantime, the Division of Pesticide Control has successfully subverted the possibility of meaningful rule changes by appointing an Aerial Review Committee composed of industry representatives, pesticide applicators, and a representative of the Northern Forest Alliance, without representation from opponents of aerial spraying or anyone from Coos County where the spraying is taking place.

Representative Derek Owen and Betty Hall have sponsored a bill to place a moratorium on aerial application of herbicides in forestry. HB 1431 closely resembles the Vermont legislation passed last year. Industry representatives noted this resemblance at the bill's first public hearing, and expressed hope that New Hampshire's legislature, at least, would maintain its historically friendly relationship with the forest products' industry.

Although widely supported by the public, the bill faces marked opposition from our representatives. Its fate for this year will be decided when the Pesticide Subcommittee of the House Environment and Agriculture Committee meets February 5.

—Daisy Goodman

New Hampshire Citizens Have No Standing—Again

Working on Waste (WOW) is challenging a decision of the New Hampshire Waste Management Council, which they say limits citizens' opportunities to be heard by the Council. The ruling which prompted this challenge came when WOW wanted to appeal weakened testing requirements for leachate at a landfill accepting incinerator ash and the council said that as citizens, they did not have standing to challenge the decision.

WOW has filed objections to this ruling on the grounds that it severely limits the public's ability to hold the state accountable for decisions which affect the environment and public health.

—from the Center for Health, Environment and Justice's publication *Everyone's Backyard*

First Annual Alternative Paper Conference

April 4, 1998 — Bates College

Meet with other grassroots activists, professional printers, agricultural experts, and producers of tree-free, 100% post-consumer, and totally chlorine-free papers.

Learn about your paper choices and how to achieve change.

Speakers include:

Andy Kerr

North American Industrial Hemp Council

Meghan Clancy-Hepburn

Wood Reduction Clearinghouse

Anne Hagstrom

Natural Resources Council of Maine

and many others

Sponsors include:

C.U.R.E.; Bates Environmental Coalition; Sierra Club—Maine Chapter; INVERT; Forest Ecology Network; Katahdin Center; Native Forest Network RESTORE: The North Woods

For More Information Contact:

C.U.R.E., P.O. Box 100, Edgecomb, ME 04556
ADBURT@WISCASSET.NET

Conference made possible in part by a grant from Patagonia, Inc.

MAINE'S BATTLE TO ELIMINATE PAPER MILL DIOXIN

by Anne Hagstrom

Ed. Note: This article looks at what was and was not accomplished in last year's legislative campaign to eliminate dioxin discharges by Maine's papermakers. The legislation which did pass and was supported by industry and Governor Angus King has a serious flaw: it does not stop the problem. A more comprehensive approach favored by the Dioxin Coalition is to produce paper without chlorine and work toward a toxin-free "closed loop" manufacturing system.

Meanwhile, federal developments include a bill introduced last spring by New York representative Jerrold Nadler, HR 1188, the Zero Chlorine Discharge Act, that would put paper companies on a five year schedule to eliminate organochlorine discharges.

The new EPA "Cluster Rule" issued in November parallels Maine's chlorine dioxin initiative. Critics point to successful lobbying by the pulp and paper industry of the Clinton administration as further evidence of Al and Bill's favoring the interests of corporate polluters over local communities.

Since dioxin from paper mills was first discovered in Maine waters more than ten years ago, citizen groups in Maine have advocated for strict standards and worked to publicize the consumption warnings due to dioxin in fish, and in tomalley from lobsters, caught in Maine waters. These efforts culminated in the formation of the Coalition for a Dioxin-free Maine, following a meeting featuring Lois Gibbs and Charlotte Brody of CCHW in early 1996.

Maine's Dioxin Coalition includes a broad range of groups including the American Association of Retired Persons, League of Women Voters, Maine Green Party, Maine People's Alliance, Maine Public Health Association, the Natural Resources Council of Maine, and many other health, religious, environmental, fishing and consumer groups. In addition the Coalition has worked closely with the Penobscot Indian Nation on dioxin issues affecting the nation.

Dioxin Coalition Coopted by Industry

In April, 1996, due in large part to the pressure put on Maine's leadership by these citizen groups, Governor Angus King announced that Maine's seven bleach-kraft paper mills had agreed to the goal of "eliminating the discharge of pollutants, including dioxin, to Maine waters."

At that time, pleased with this announcement, six members of the Dioxin Coalition entered into stakeholder talks with government and industry representatives to work out the details. After four meetings, it became clear that industry had no intention of taking the steps needed to eliminate dioxin. Instead they argued that "elimination" did not equal zero dioxin, and said that they planned to continue to use chlorine dioxide processes that produce dioxins.

Once the industry's lack of good faith became apparent, Dioxin Coalition members withdrew from the talks, worked together to develop a bill to meet the goal of dioxin elimination, and prepared to introduce this proposal

to the Maine Legislature. The bill, An Act to Eliminate Paper Mill Dioxin and Restore Maine's Rivers, would have phased out the use of chlorine-based paper bleaching by the year 2002, and set Maine on the road to "closed loop" paper mills that recycle their bleaching wastewater.

The Coalition's proposal prompted the Governor to introduce a competing measure, requiring that the most toxic dioxin, 2,3,7,8 TCDD, be reduced to "non-detectable" levels at the bleach plant by 1998, and the most toxic furan, 2,3,7,8 TCDF, be reduced to "non-detectable" levels by 2002. It also established a requirement that fish tissue dioxin contamination be at the same level downstream as upstream from bleached-kraft mills.

Unfortunately, the Governor's proposal, which did get passed into law, will not eliminate dioxin discharges, as even at non-detectable levels there can be billions of dioxin molecules in each gallon of paper mill wastewater. The Governor's bill also will not move the mills towards "closed loop"/low-flow processes, which would vastly reduce the 40 million gallons of polluted bleaching wastewater discharged into rivers each day by Maine's seven bleach kraft mills. In addition, loopholes in the fish testing requirement could limit its effectiveness.

The Dioxin Coalition's Proposal

During the spring of 1997, the two dioxin proposals generated a highly visible statewide debate in major newspapers, in the state Legislature, and among people throughout Maine. To build the case for dioxin elimination and chlorine-free technologies, coalition

members wrote dozens of letters to the editor, held meetings with other organizations and gave slide show presentations, produced and distributed more than 50,000 brochures and reports, and ran a hard-hitting guerrilla radio campaign. These all laid out the health, economic, technical and environmental arguments for totally chlorine-free (TCF) conversion.

Coalition members and others participated in news conferences and focussed public attention on the quality and marketability of TCF paper, the inability of Native Americans and other anglers to catch and eat uncontaminated fish, public opinion polling that indicated citizen support for dioxin elimination, and a stealth campaign by the chlorine dioxide chemical industry to mislead Maine citizens and legislators.

In April, 1997, more than seventy Mainers from all walks of life declared their support for the coalition bill during eight hours of hearings held in the largest hearing room in Augusta. Physicians, mothers, environmental activists, business owners, teachers, anglers, and members of the Penobscot Indian Nation testified eloquently in favor of banning dioxin and converting the pulp and paper industry to TCF processes.

Industry representatives ultimately supported the Governor's proposal ignoring the fact that it would not eliminate the discharge of dioxin and would not position Maine mills to eventually recycle all of their wastewater, goals that the mills had committed to just one year earlier.

The Governor's bill was praised by
Continued on Page 9

Vietnam Veteran: It Took 20 Years for Me to Become Sick from Herbicide Exposure

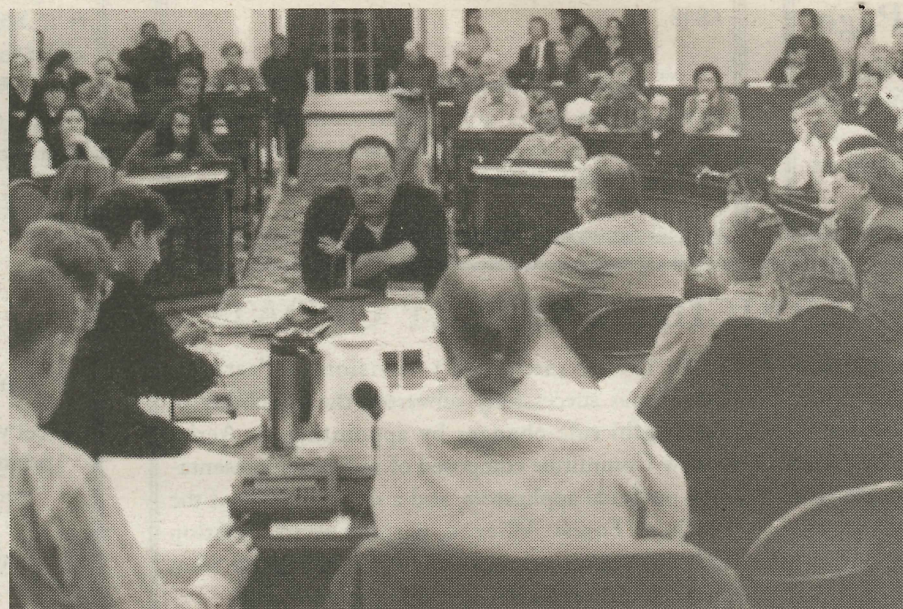
Excerpts from a letter to Sharon Treat, chair of Health and Natural Resources Committee, Maine state legislature, dated March 28, 1997, from Robert L. Graeter, Vietnam Veterans of America in Vermont, chair of their Agent Orange Committee:

Dear Sharon:

I am a Vietnam Veteran exposed to dioxin from herbicide spraying of Agent Orange on the Vam Co Dong River in the Republic of South Vietnam in 1968 and 1969. This chemical was sprayed on both sides of the river for two thousand yards away from the river. We were assigned [to] working crews to physically cut the dead brush and trees. We would pile this brush and incinerate it.

In March of 1965, Dow Chemical official V.K. Rowe convened a meeting of executives of Monsanto, Hooker Chemical, which operated the Love Canal dump, Diamond Alkali, the forerunner of Diamond-Shamrock, and Hercules Powder Co., which later became Hercules, Inc. The purpose of this meeting was to discuss dioxin, which they knew to be exceptionally toxic.

Dow was concerned that the government might learn of a Dow study showing that dioxin caused severe liver damage in rabbits. Dow was extremely frightened that this situation might



Robert Graeter testifies before the Vermont Legislature in 1997 on herbicides. Photo © Gustav W. Verderber

explode and lead to strict government restrictions.

Also in March of 1965, chemical-pharmaceutical manufacturer, Boehringer of Hamburg, Germany, warned Dow and associates that incinerating production wastes was a sure way of spewing a dioxin cloud all over.

This vital information should have been shared with the troops in Vietnam. Because it was withheld, over 240,000 Vietnam veterans have died from Agent Orange related problems and over 70,000 have claims with the

Department of Veterans Affairs with Agent Orange illnesses.

You can not trust or rely on the chemical companies or trust that they will not contaminate the earth, and its occupants.

While on the rivers in Vietnam, our cooking, bathing, and drinking water came from the river. We would have constant diarrhea, and open sores that never seemed to heal.

I suffer from peripheral neuropathy, myopathy, and Raynaud's phenomenon. My symptoms started in 1988 and were

not positively diagnosed until December 1992 at the Strong Memorial Hospital, University of Rochester Medical Center, Rochester, New York, by Richard T. Moxley, M.D., director of the Neuromuscular Disease Center. This was all done at my expense, because the Veterans Administration does not recognize all medical problems derived from Agent Orange.

I was disabled by the United States Customs Service in June of 1993 and six months later by the Social Security Administration. My life as I knew it ceased. I function at about 25% of my previous ability. I can no longer swim, hunt, fish, run, climb stairs or hills; the use of power tools and driving front wheel driven vehicles can not be tolerated because of the vibration, and the list goes on and on.

The waters of Lake Champlain are so polluted from dioxin and mercury that people are advised not to eat the fish.

It took twenty years for me to become sick from herbicide exposure. That is a generation away. Do we want our children and grandchildren dying from our inability to correct a terrible wrong?

Sincerely,
Robert L. Graeter

Response to Testimony Offered in Opposition to Bill that Sets NH Aerial Herbicide Moratorium

Compiled by the Herbicide Project
of the Northern Appalachian
Restoration Project

On January 21 the Environment and Agriculture Committee of the New Hampshire Legislature conducted a hearing on HB 1431 which would impose a moratorium on the commercial aerial spraying of herbicides in New Hampshire. Grassroots supporters of the moratorium, which is virtually identical to the moratorium passed by the Vermont Legislature in May 1997, cited scientific studies, ecological concerns, absence of important scientific studies, and the inability of the NH Division of Pesticide Control to operate and monitor a spray program. Opponents of the bill were lobbyists from industry, the Farm Bureau, and state agencies. Also, the Society for the Protection of New Hampshire Forests opposed the moratorium, in the apparent belief that sprayed toxins are a "safe, proven" way of promoting forest health in New Hampshire.

Following the hearing, the Herbicide Project of the Northern Appalachian Restoration Project examined the truth content of some of the more plausible-sounding claims of the herbicide sprayers and their friends. Many other spray-proponent claims (such as the strange belief that water quality will not be compromised by such spraying) are not rebutted because they are probably not even taken seriously by the folks who mouth them to the Legislature.

Claim #1: The economy of Coos County depends on the continuing aerial application of herbicides:

Response:

- The Northern Forest area of Coos County has been designated a recreational asset to the state by Governor Shaheen; continuing aerial application of herbicides and the accompanying controversy will significantly diminish the pristine, natural image of the region.
- Aerial spraying is both an eyesore and



it significantly impacts wildlife habitat essential to the region's fishing and hunting economy.

- First Colebrook Bank and other institutions recognize that an over-dependence on industrial forestry has placed the region's economy on shaky ground. First Colebrook released a brochure in 1997 called "A Time of Change" in which it states: "The timber industry continues to show signs of an industry in decline."
- Aerial spraying is touted as management for the long term: However, after nine years of aerial spraying, Boise Cascade sold its entire NH holdings to Mead Corporation in 1996; and Champion International has just announced the sale of approximately 20,000 acres in NH.

Claim #2: Aerial spray rule changes initiated by the Aerial Spray Review Committee adequately

address public concerns and demonstrate that New Hampshire's pesticide program is working well.

Response:

- The Aerial Spray Review Committee (ASRC) was made up of agency representatives who regularly approve aerial spray permits, industry representatives, pesticide applicators, and one representative from the Northern Forest Alliance. Excluded from the ASRC were opponents of aerial herbicide applications and residents from affected communities from Northern NH.
- Concerns about the composition of the ASRC were expressed in writing and verbally to Commissioner Taylor. These concerns were ignored.
- Under the proposed rule changes, the public is allowed to participate in the permit review process only in writing during a two week comment period; no public hearing is allowed for proposed applications occurring in a designated "non-residential" area. Note: such "non-residential" areas contain residences; however, because they are rural residences, the Division of Pesticide Control arbitrarily classifies them as non-residential, thereby effectively denying concerned citizens access to important information regarding potential threats to their health, their gardens, as well as drinking water and wildlife.
- Coos County residents do not believe that the rule changes adequately address our concerns.

Claim #3: The NH Division of Pesticide Control regulatory process is adequate to protect environmental quality.

Response:

- No amount of regulation can eliminate human error. Reported applications of herbicides outside the permitted areas include:
 - * 1987: Direct spraying of Dead Diamond River by Boise Cascade;
 - * 1991: Unintentional spraying of 41

acres without a permit by Boise Cascade;

- * 1995: Unintentional spraying of ten acres in Maine without a permit by Champion International. Note: NH Division of Pesticide Control's monitoring procedure failed to uncover the 1995 spray incident.
- * Are there other unreported or undetected incidents?
- Drift or application of herbicides to unintended targets almost guarantees water contamination since these areas have not been marked with appropriate buffers, etc.

Claim #4: Products are adequately tested, safe, and approved for use by EPA.

Response:

- EPA memo of March 24, 1994 concerning the herbicide OUST and other herbicides of the ALS inhibiting family (ARSENAL, also used in forestry in northern New Hampshire, is in this category of herbicides.) In this memo, the EPA's Environmental Fate and Effects Branch made the following recommendation: "delete aerial applications from all ALS inhibiting herbicide labels" (p. 11), and "initiate Jeopardy Opinions with the Fish and Wildlife Service for the ALS inhibiting herbicides." (p. 12)

Claim #5: Drift is not a problem.

Response:

- EPA memo of March 24, 1994 states: "When aerial applications are made, it is inevitable that a predictable percentage of spray will transport potentially as far as two or more miles from the treatment site. A percentage of the amount of spray applied per given acre is lost (unaccounted for) into the atmosphere (efficiency loss). The EEB currently uses a 40% efficiency loss value when we calculate combined surface transport and drift estimates." (p. 8) The memo also cites studies which found that small droplet drift occurred with all nozzle sizes and designs. (p. 8)

Mill Dioxin

Continued from page 8

state officials and industry as the most stringent state dioxin discharge law in the nation. In fact it is not very different from EPA's new cluster rules—which essentially will require the mills to convert their bleaching processes to using 100% chlorine-dioxide.

Opportunity Missed, Much Accomplished

Maine's legislature missed an important opportunity last year to really make a difference to the health of Maine people and wildlife and the long term health of our rivers by refusing to adopt the TCF bill. However, even though the Dioxin Coalition bill was defeated, our campaign still achieved a great deal:

- Maine people are much more aware of the dangers of dioxin and other toxic chemicals and we have helped set the stage for action on other

dioxin sources.

- We formed an exciting coalition which will continue to work together on dioxin issues.
- In a shift from prior debates, no one publicly denied the risks posed by dioxin.
- Maine's paper industry is being watched more closely than ever.

The Coalition still believes strongly in TCF as the solution to the paper mill dioxin problem and we will continue to advocate for TCF whenever we can. We will also closely monitor the implementation of the Governor's law to ensure that the mills comply with its standards.

For a copy of materials developed in support of this campaign, please call, fax, email or write to:

Beth Dimond, NRCM
271 State Street
Augusta, Maine 04330
phone 207/622-3101
fax 207/622-4343
bdimond@nrcm.org

After the Ice Storm, the Forest is Still Healthy

Calls for Salvage Logging Are Premature & May Damage Forest Health

by Jamie Sayen

"These forests were as healthy the day after the storm as they were the day before."

—David Publicover, Forest Ecologist

The dramatic ice storms of early January inflicted significant "damage" to forests in the Adirondacks, Vermont, New Hampshire, and eastern Canada. But, that "damage" is natural to these forest ecosystems.

Although this particular disturbance event was relatively severe, it was a natural event, and is not a "disaster" for the health of the forest, as has been claimed by some foresters, landowners, and timber industry spokesmen. The proper response to the ice storm is patience, caution, and attention to the ecological issues that have been dramatically highlighted by this event.

Salvage logging is being promoted by elements of the timber industry, but there are studies that demonstrate it damages ecosystem health, and may even increase chances of fire. Obviously, if a tree fell on your house or driveway, you should clear it away. However, salvaging a woodlot or larger timber stand prematurely may carry serious ecological—and economic—costs.

I spoke with Dr. David Publicover, a forest ecologist who works for the Appalachian Mountain Club at Pinkham Notch in the White Mountains, about the ecology of the 1998 ice storm. What follows are his comments on a number of factors a landowner should consider before taking action, such as salvage logging.

Relative Scale of the Natural Disturbance Event: The important thing to remember is that disturbance is continual and shapes our forest in many ways. Disturbance ranges from small branches falling to the 1938 hurricane, which Publicover describes as an event that is likely to occur at intervals of many hundreds of years. Though damage appears very severe at first glance, this was not an extreme event. The January ice storm was probably only a 30-50 year event. Trees that can live to 200 or more years have probably already lived through one or more such events.

The level of damage caused by the storm is consistent with the disturbance regime that is characteristic of this region. Some areas were hit heavily, while a few miles away, there was little or no damage. Also, within stands that suffered heavy damage, there are patches of severely damaged trees, and other patches with little or no damage. Few, if any, areas will suffer 100% mortality. This was not a catastrophic stand-replacement disturbance.

Ecosystem Functions: Ecosystem functions such as level of productivity, mass of foliage, and hydrology, should return to normal levels in a few years. A forest system regrows its foliage pretty quickly even where damage is extensive. Maple sugar stands that suffered heavy damage may take longer to recover.

Mortality: It is difficult to assess

mortality at first glance, unless all branches have been completely broken off. Most tree mortality will not show up in the summer of 1998 because the damaged trees have energy stored from the year before that will enable them to survive this summer. The critical question is: will they be able to produce enough foliage to rebuild their canopy and keep their living tissue alive over the next couple of summers. Thus, mortality will most likely not occur on most damaged trees until 1999 or 2000. There is no reliable way of predicting today which trees will survive and which will die in two or three years. Dr. Publicover advises woodlot owners to wait at least a year or two.

Wildlife: Negative effects of the storm on wildlife should be short-lived. As damaged trees pour more energy into producing leaves and roots and branches, less energy will be available for seeds and nuts. Because of damage to beech and oak, mast may be in short supply the next couple of years, but these reductions will be patchy (just as the original disturbance was patchy), and the larger animals and birds can move around to a less affected area. Squirrels and mice may be easier prey as they are forced to spend more time in the open looking for food that is less accessible due to the ice.

Benefits: Anything that uses dead wood will benefit. Hawks, owls and other birds that nest in broken tops or cavities require dead or damaged trees. Fungi and wood boring or bark beetles should thrive. Birds that eat insects will flourish. Birds that eat birds that eat

insects will also benefit.

Animals that nest in woody debris—salamanders, bears, chipmunks, fisher, pine martens—will benefit.

Softwoods will be "released" in mixed stands where there has been significant damage to hardwoods.

The ice storm disturbance will promote greater age diversity in mature, even-aged stands, such as the 80-90 years old stands that cover much of the White Mountain National Forest. The patchy disturbance will facilitate the release of younger age classes. This will produce greater vertical diversity in the forest.

Understory flowers and herbs will get some light in the new openings.

Salvage: Studies document that most of the ecological damage to New England forests following the 1938 hurricane came from salvage logging, not from the storm itself.

Publicover offers landowners several reasons why they should not remove everything from a damaged stand:

- much of the damaged wood won't be worth much as sawlogs; it may only be good for wood chips, the lowest paying way to sell wood;
- leaving all trees that may survive will require waiting two or three years. They are the larger trees of the future;
- the ecological benefits of light salvage are greatest, and the economic benefits of chipping everything is small.

Fire Hazard? Dr. Publicover notes that two factors contribute to forest fires: (1) fuel loading and (2) ignition potential. Conditions in the Northern Forest region are rarely favorable for

both. In fact, some ecologists have described the Northern Forest as the asbestos forest. Usually lightening is accompanied by rain. (Fires set by humans are another matter, and there may need to be restrictions on human activities in some areas that are most prone to fire for a while.) Even in heavily damaged areas, fuel loading is patchy and scattered; it is not evenly spread over the landscape.

If fires do burn, they may burn a bit hotter in some places, and they may reach up into hanging branches. But the threat of large crown fires is decreased because the canopy is thinner and less continuous.

Paradoxically, if you salvage, you may actually increase the chances for fire because all that fuel will be on the ground, creating a more continuous loading of fuel on the forest floor. Many of the most severe fires of the past, such as those that ravaged the National Forest in the early part of this century, occurred in heavily logged areas that contained large amounts of slash and debris.

Where is salvage appropriate? Dr. Publicover recommends clearing near residential areas, roads, and hiking trails, but he says, there is no need to clean up everything in the woods.

If landowners decide to salvage, it would be most appropriate in heavily damaged stands of high quality hardwood trees where there may be significant loss of timber value due to mortality and degradation of the wood. But even in these areas, retaining less heavily damaged trees that are likely to survive will provide ecological benefits.



Typical ice storm damage in central Maine. Photo © Conrad Heesch

Salvaged Areas More Vulnerable to Damage From Fire

In July 1995 there was a great blowdown in the Adirondack Park. Almost immediately there was a hue and cry from the timber industry to "salvage" the state Wild Forests. Fortunately, cooler heads eventually prevailed, and the state conducted some research about salvage activities in the region.

The Forum reported in its Mud Season 1996 issue (vol. 4 #4) that the New York DEC found that following a blowdown in Baxter State Park in Maine, "half was salvage-logged and the other half was left alone. Later a fire burned both areas. Contrary to the claims of salvage logging boosters, the unsalvaged area fared much better than the salvaged area.

"The salvaged area was more open to desiccation due to sun and wind, and small branches left behind after the salvage operations. The fire scorched the soil. In the unsalvaged area, the blown down trees acted to shade the soil, to retard the fire (by retaining moisture), and helped send the fire up into the smaller branches and away from the soil. The soil of the unsalvaged area was not scorched."

—JS

"There is Nothing to be Gained from Panic or Immediate Salvage"

On January 29 the US Forest Service sponsored an "Ice Storm Damage Assessment Workshop" for forest resource professionals. The Forest Service intends to offer the workshop several more times to a range of audiences. The discussion and examination of some damaged stands was led by Walter C. Shortle and Kevin T. Smith, plant pathologists with the Northeastern Forest Experiment Station in Durham, NH. Dr. David Publicover attended the workshop and offered the following notes taken during the discussion:

➤ Most people (including experienced resource professionals like those at the meeting) are likely to overestimate the level of damage to a tree or stand.

➤ The impact of the damage (in terms of mortality, growth loss, or degradation of wood quality) is likely to be far less significant than most people would expect from looking at a stand.

➤ There is nothing to be gained from panic or immediate salvage," a direct quote from Kevin Smith.

➤ Trees lose branches all the time; they are adapted to dealing with it.

➤ Trees that lost up to 50% of their foliage will likely suffer no significant growth loss or loss of wood quality.

➤ Trees with 50-75% crown loss will probably survive, but will lose some growth and will probably develop some defect due to fungal attack or secondary insect.

➤ Trees with greater than 75% crown loss will probably die. Some heavily damaged trees may die by late summer, especially if there is drought, but mortality will manifest itself for 2-3 years or more, though eventually it will fade into the normal background level.

➤ Damage is likely to be most severe in poor form trees (forked, cankers, asymmetrical, etc.); these are exactly the kind of trees that give the lowest return if harvested.

➤ Eventual mortality may be more severe in shade intolerant trees (white birch, red maple) than in shade-tolerant trees (sugar maple, beech, yellow birch) because the latter are more adapted to recovering from prolonged periods of suppressed growth.

➤ Defect is very slow to develop and the tree has mechanisms for compartmentalizing it. Some discoloration of wood may be evident in a few years, but this moves downward slowly and does not degrade the wood (unless color is an issue.) Fungal attack that actually causes loss of wood quality may take several years to develop; it will take several decades for severe core rot to develop. If damage is limited to upper crown breakage, decay may take decades to reach the merchantable bole. Most severe is breakage of large tops or large limbs down low, which allow decay to get into the bole more quickly. If the tree is of good form and high value, you are better off letting it grow—the increase in quality wood around the cir-

cumference will more than offset loss due to decay (which will be confined to the lower-value center of the stem).

➤ Because decay is slow to develop, there is ample opportunity (at least 1-3 years even in severely damaged stands) for cautious evaluation and monitoring of recovery. "Be safe, don't panic, and get professional help." —J.B. Cullen (NH Division of Forests & Lands, forester)

➤ The most significant near-term (next few years) concern for defect is probably blue stain of white pine that lost large limbs.

➤ There is a lot of uncertainty about predicting mortality or decay of individual trees; genetics, weather, tree vigor, what fungi get into a wound, and additional future damage can all play a part.

➤ There is a greater chance of loss of wood quality from careless logging (which damages the lower boles of residual trees and gives rot an entrance into the most valuable butt log) or premature salvage (which may cause logs to lay around while waiting for a market) than from damage due to the ice storm.

➤ It was very interesting to walk

around Pinkham Notch with Shortle and Smith—they saw very few trees that they thought wouldn't recover. We looked at a patch of yellow birch about eight inches DBH that looked pretty busted up—lots of limbs hanging down, but on closer look, it was found to have suffered less than 50% crown loss. Shortle basically said "no problem"—leave them alone, and they'll do fine. I think this surprised a lot of the foresters there.

➤ The most immediate concern is dealing with hazard trees in areas of high use.

➤ It will also take several years for insect populations to build up, and even there the concern is not future mortality but increased defect due to entry holes for rot fungus.

➤ Everybody seemed in agreement that increased fire hazard was pretty much of a non-issue; dry south-facing slopes could get a hot burn but nobody seemed concerned about it. Shortle said the impact of the storm on fire risk was "trivial" compared to the risk associated with logging. (Off the record, several people joked that the state was building up the fire hazard issue to squeeze emergency money out of Washington.)

Impact of the Ice Storm? Less Than Bad Salvage Operations

The unprecedented four-day ice storm had much less impact on northern Maine (which got mostly snow and ice pellets) than it did on south-central and downeastern parts of the state. In the regions with most severe impacts, not just branches, but entire trees crashed to the ground. At this point, all we have is anecdotal evidence, but it appears that damage was slight to spruce and fir, moderate to some pine, and severe to some hardwoods. Among the hardwoods, stocking, form, and species had an effect on the severity of the damage. Better-stocked stands of trees with good form had less damage than poorly-stocked stands of trees with lots of branches and poor form. Finer branches and longer branches, apparently, had the most potential to break, making aspen, gray and white birch, and red maple more vulnerable than some other species. But I heard reports that even some red oaks and hard maples were damaged.

Future quality will undoubtedly go down in some areas of the state. Growth may slow, and wounds may create openings for disease or insect damage on some trees. If landowners try to salvage in a big way, the market will be flooded with low-value wood. Much of Maine's large and growing hardwood resource will not have low value for the landowners.

Low-impact Salvage

It is too early to decide whether to salvage certain stands. Some bent trees may straighten. Trees with dropped branches may heal. Foresters I have talked to have suggested landowners should wait to see what the real problem areas are. Don't salvage trees that can recover. If you do salvage use low-impact techniques:

- cut in the context of a long-term plan;
- keep equipment on permanent trails;
- work when the ground is frozen or dry;
- avoid damage of residual trees during cutting, winching, and yarding;
- avoid cutting when the sap is running and trees are most vulnerable.

Salvage that hurts the potential for the future stand is not silviculture—it is mining. As bad as windstorms, ice storms, insects, disease, or even fire may seem, forest ecosystems have adapted to recovering from them over thousands of years. The frequency, intensity, and scale of some disturbances have increased due to human interference and may be creating patterns that are novel to the forests and the species within. Severe cutting that removes most of the biomass and compacts and exposes the soil, however, is something new, and potentially disrupting to northern New England forests.

Research by Harvard scientists connected with the Long-Term Ecosystem Research program has indicated that even with violent windstorms in northern hardwoods, the majority of the trees that fall can continue to live and resprout. The great damage done by the Hurricane of 1938 was from the salvage, rather than the wind.

—Mitch Lansky



Softwoods weather ice storm in central Maine. Photo © Conrad Heeschen

Adirondack Park Report

by PETER BAUER



1997 finished with a flurry of activity in the Adirondack Park. Important lands were protected, vital principles for the management of the Adirondacks were reaffirmed, and a roiling controversy was resolved. 1998 started off with similar good news: Gregory Campbell was removed as the Chairman of the Adirondack Park Agency. This installment of the Adirondack Park Report looks at these four stories.

14,780-Acre Whitney Tract Purchased: In December 1996, Marylou Whitney announced plans to carve the 15,000 acres surrounding Little Tupper Lake into a 40-lot subdivision. She also announced that if the price was right she would sell the property to the State of New York. Indeed advance copies of the subdivision plans had circulated for weeks among the Pataki Administration and the environmental community. After initial negotiations bogged down over price and Mrs. Whitney was harshly criticized for a sale of one inholding, Camp Bliss, a deadline was set: a deal had to be completed by December 22, 1997, after which subdivision plans would go full speed ahead.

At 8:00 PM on Sunday evening on December 21st, Governor Pataki, the Nature Conservancy, and Marylou Whitney came to terms on a 3-way deal to protect the entire 51,000-acre Whitney Estate in the central Adirondacks. On Monday morning December 22nd, Governor Pataki stood beside Marylou Whitney at an ornate press conference at the State Capital in Albany to announce the deal. Under the terms of the deal struck the state will purchase the northern 14,700 acres of the Whitney Estate for \$13.9 million and 80 acres around the former Whitney Industries Headquarters compound, which includes 20 buildings, for \$3.2 million. The Nature Conservancy purchased a 10-year "Preservation Agreement" on the remaining 36,000 acres for \$3 million; this agreement prohibits further development on the property for the next 10 years. All of these deals are expected to close in June 1998. Last, Camp Bliss, an inholding on the western end of Little Tupper Lake, will be purchased by the state in September 1998 for \$500,000; the camp will be taken down.

Little Tupper Lake is the centerpiece of the purchase. Nearly 3,000 acres in size and eight miles in length, it had been the largest lake in private ownership east of the Mississippi River. The Whitney Estate has long been the top priority for acquisition by the Adirondack conservation community. It contains over 30 lakes and ponds, many connected by navigable channels or short portages and is part of a contiguous stretch of undeveloped, or lightly developed, public and private lands totaling almost one-half million acres. Environmental groups and one state commission drew a plan for a 400,000-acre Bob Marshall/Oswegatchie Wilderness area that contains the entire Whitney Estate. In the 19th Century the Estate had been the central hub of a network of canoe routes paddled and written about by many. In the 20th Century the portages were closed, fences were strung up across the navigable channels, the property posted,

The state will purchase the northern 14,700 acres of the Whitney Estate for \$13.9 million and 80 acres around the former Whitney Industries Headquarters compound, which includes 20 buildings, for \$3.2 million. The Nature Conservancy purchased a 10-year "Preservation Agreement" on the remaining 36,000 acres for \$3 million.

and historic canoe routes were foreclosed. This deal will partially reconstruct one of the canoe routes, but the hope is that in the future the remainder of the Estate will be purchased and become part of the publicly-owned Forest Preserve.

This deal is the most significant state purchase in the Adirondacks in the last 25 years; as significant as the purchase of the Dix Range and Lake Lila in the 1970s. The 14,780 acres around Little Tupper Lake, the northern section of the Whitney Estate, will become part of the Forest Preserve. In addition to Little Tupper Lake, which is eight miles long, this parcel contains nine other lakes and ponds. A 2-mile navigable channel connects Little Tupper to Rock Lake. After canoeing the Rock Lake inlet a carry will be constructed to Louie Pond. This will be followed by a carry west from Louie Pond to Hardigan Pond. From there one can canoe the outlet and reach Little Salmon Lake and Mud Pond and the Shingle Shanty River, which flows into Lake Lila. Another carry could connect Frank Pond to the circuit. From Lake Lila, one can paddle down the Beaver River to Nehasne Lake and into the Stillwater Reservoir. This purchase creates a truly great Adirondack canoe experience.

Marylou Whitney inherited the property and a portfolio of wealth valued at \$100 million in 1992, when her then husband Cornelius Vanderbilt Whitney died. Mr. Whitney's grandfather had purchased the property and it had been managed forest lands since the 19th Century. Indeed one of the first forest management plans written by Gifford Pinchot was for the Whitney Estate. Over the past ten years Whitney Industries deviated sharply from this plan and today the timber resource remaining is minimal. On the property purchased by the state there will not be stock worth harvesting for thirty years or more. While one development industries group called upon the state to purchase a conservation easement on the property and not purchase it for the wilderness Forest Preserve, its calls were undermined by the fact that no forest land management company or investment group offered to purchase the timber rights to own butchered forests. One logger in the central Adirondacks told me he had been invited to log the property four years ago, but had to leave because he couldn't find anything!

Many have questioned the price paid by the state to Mrs. Whitney. Though the standing forest resources are minimal there are 32 miles of shoreline, which

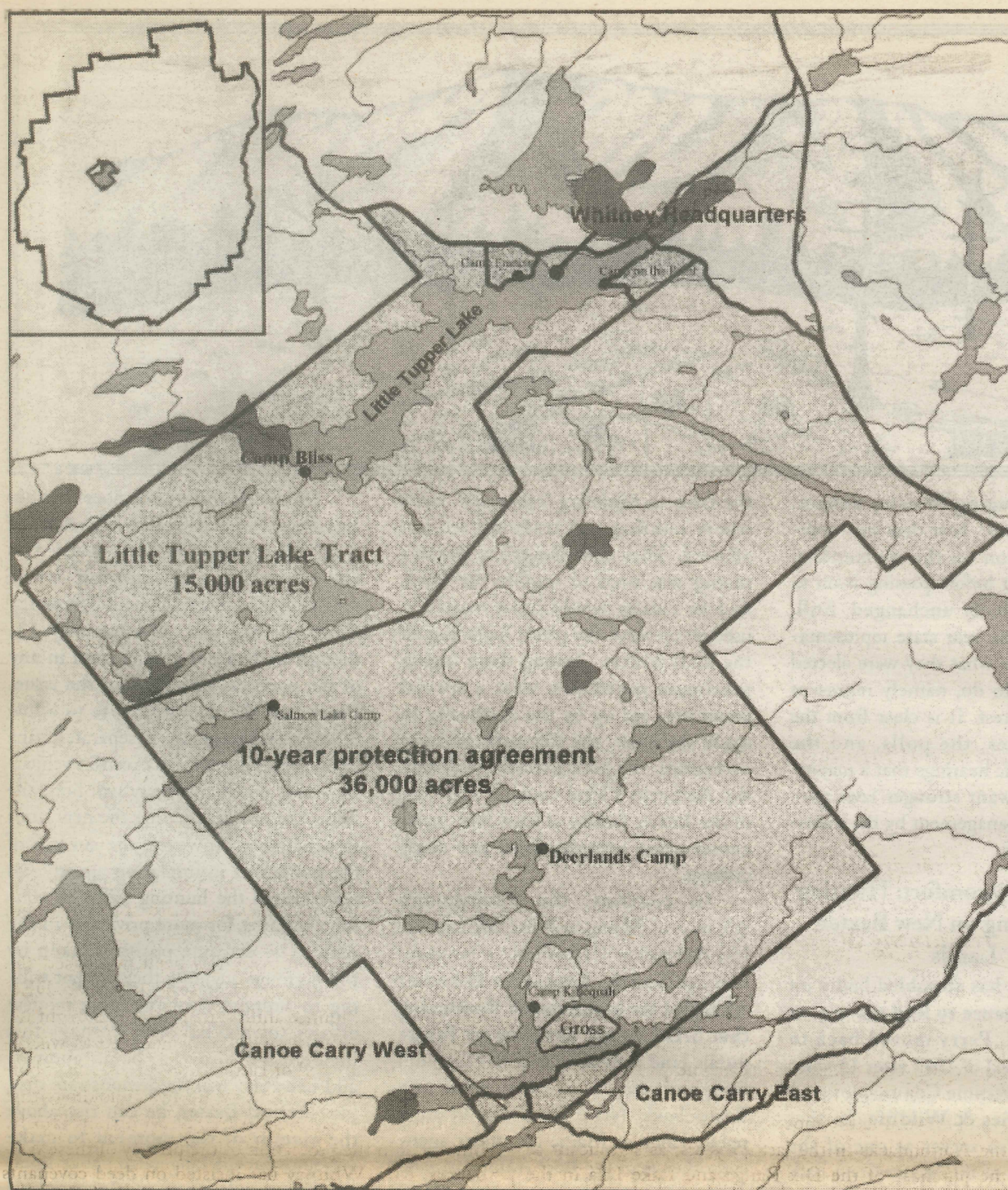
greatly elevates the property's value. During negotiations three appraisals were done on the property and calculated an average value of \$1,000 per acre; a value solely due to the extensive shoreline. The state paid approximately \$955 per acre and more for the buildings on the headquarters compound. The Department of Environmental Conservation (DEC) has already announced it will use the headquarters area as a Rangers outpost. Located on the eastern end of Little Tupper Lake, the headquarters area will also, presumably, be used as a parking and information area, and launching site.

Now that the property has been purchased the thorny issues of management must be dealt with. DEC Commissioner, John Cahill, stated that he thought the property should be classified and managed as wilderness. On the east end of Little Tupper Lake, neighboring the headquarters property are two inholdings that will remain in ownership by the Whitney family. Interested in the protection of the privacy of these residences, Mrs. Whitney has insisted on deed covenants banning float planes, jet skis and motorized boats from the lake; the caveat is that each camp will have the right to two 16-horsepower motorboats. One road travels east-west through the northern top of the property and is under contract to International Paper Company as a haul road from its property west of the Whitney Estate. The future of this road will be a major management issue to resolve.

While the State of New York has the funds available to purchase the Little Tupper Lake tract, the Adirondack Nature Conservancy and Land Trust sealed the deal by purchasing the 10-year "Preservation Agreement." The Adirondack Nature Conservancy and Land Trust is in the process of raising the \$3 million; contributions can be made to: Adirondack Nature Conservancy and Land Trust, P.O. Box 65, Keene Valley, NY 12943. The "Preservation Agreement" sealed this deal and holds the key to potential future purchases of Estate lands.

Reaffirmed: Adirondack Park Deserves Special Protections: In early December 1997, Governor Pataki announced an \$11 million program to close all landfills in the Adirondack Park. Just three landfills are currently open in the Park; two unlined town landfills in Hamilton County that are under special operating orders by the DEC and are scheduled to be closed this year; the other is the Essex County Landfill, a facility that county leaders there are attempting to sell to a private company that wants to expand it to import 500 tons per day of solid waste, over 150,000 tons annually, into the Adirondack Park. Early on, when pressured, Governor Pataki stated that he took a "dim view" of Essex County's plans and committed his Administration to finding a resolution that would bail out the dismal financial condition of the county's solid waste program.

When Governor Pataki announced his opposition to the sale of the landfill back in January 1996, this ensured that the two state agencies with overlapping



regulatory jurisdiction over the landfill's operations would properly enforce their statutes and properly review the proposed expansion. Pataki's first year in office was marred by many environmental disgraces highlighted by lax enforcement by the regulatory agencies. When the Essex County Landfill sale was announced both the Adirondack Park Agency and DEC took a hands off approach. Currently permitted at 95 tons per day the prospective buyer is seeking new permits for 500 tons per day. Rather than comply with a thorough review by these agencies after Pataki announced his opposition, Essex County and the prospective buyer, Serkil, LLC, sued both agencies. This lawsuit has lost twice in the lower courts, but is now scheduled to be heard by the state's highest court this winter.

On January 2, 1996, Essex County leased the landfill and all its equipment to Serkil. Almost immediately the company began exceeding the daily permitted levels for disposal of solid waste. Out-of-state waste was even imported. In May 1996 DEC commenced an investigation and while Serkil and Essex County have both been found guilty of dozens of permit violations, no fines have yet been levied and the investigation has not yet been resolved.

The Governor's solution calls for buying off Essex County. Under the Governor's offer the state will pay off \$5 million in bond debt the county ran up constructing the landfill. The state will pay for the closure and capping of the landfill. The state will also underwrite the shipping of waste from the county to other locations (in northern New York there's twice as much waste disposal capacity as there is waste) outside the Adirondack Park for one year. In addition, Hamilton County will receive funds to close the two town landfills, build a transfer station network, and be subsidized to ship out its waste. This deal will make both of these Adirondack counties the only counties in New York State without any debt from their solid waste pro-

grams. Both counties are still negotiating the final details, but approval is imminent.

This was a case where activists changed the course of the debate and made sure that a bad idea wouldn't succeed. Many citizens around Essex County organized to fight this plan and teamed up with environmental organizations. It was a successful partnership. Because it had been the position of many that the communities of the Adirondack Park should manage their own waste—but that the Park shouldn't become a dumping ground for the rest of the state—the final resolution eliminating landfills altogether in the Adirondacks is troubling. An important principle was reaffirmed: the Adirondack Park is a special place and deserves the highest levels of protection.

Proposed Prison Moved: In December, Governor Pataki announced that he was moving a proposed prison from a site in the Town of Altamont (Tupper Lake) to a site outside the Adirondack Park near Malone. The Governor cited the existence of aquifers near the site as the major reason for his switch. This issue had been particularly troubling for many who live in and care about the Adirondack Park. Campaigns against the prison formed in Tupper Lake and outside the Park by various groups that claimed a prison was incompatible with the Adirondack Park. Others vigorously supported the prison and saw it as sustainable development that would be barely visible and not interfere with or undermine the Park's open space and wilderness character.

There are six prisons already in the Adirondack Park, one federal and five state facilities. In New York State, which is expected to reach an inmate population of 100,000 in the coming years, prisons are upstate jobs programs. In northern New York alone there are 18 state prisons. The Department of Corrections pays very well for otherwise unskilled labor. The proposed prison was a popular idea in Tupper Lake because it

would have added 450 new, and secure, jobs to the local economy. The maximum security prison in Dannemora, inside the Adirondack Park, holds the notorious Son of Sam. A bitter battle ensued for and against this prison spearheaded by the Tupper Lake local government for it and the Sierra Club against. Both were pitted against a time clock where the project had to be underway by the end of the 1997-98 fiscal year, March 31st.

The prison got off on the wrong foot and never recovered. Hatched in the last hours of the state budget negotiations in August 1997, the Department of Corrections (DOC) seemed utterly incapable of dealing with the laws of the APA and between August and December (when Pataki moved the site) never managed to put together a complete application to the APA. The site in Tupper Lake was a poor one. It has extensive wetland systems and the prison would have generated over 300,000 gallons as day of waste water and sewerage to an already weak municipal sewage treatment facility, which disposes into the Raquette River. Few though blame the DOC or the unsuitability of the site. Most blame the environmental community and argue that the economic futures of Adirondack residents are controlled by forces from outside the Adirondacks. These feelings, intensified and festering, are the prison's legacy. One troubling message is that if the State of New York cannot build a facility in the Adirondacks, how can somebody in the private sector be expected to try?

The debate over the prison has launched a spicy debate over economic development in the Adirondacks. Environmental groups have floated ideas, various agencies and local governments have ideas and programs out there, and Governor Pataki has announced his intentions to do something. In the midst of the accusations and recriminations about the prison, the state expanded the Sunmount Developmental Center, a state-run facility that houses violently mentally ill individuals. This expansion will add almost 150 new jobs in Tupper Lake. To get an economic development program approved this year will take a new level of cooperation between local governments, the Adirondack environmental community, and the state government. While all sides have pledged to work together, we have not yet sat down to do so.

James Watt of the Adirondacks Booted: Gregory Campbell has been removed as the Chairman of the Adirondack Park Agency (APA). Governor Pataki has transferred him to a new position as a special assistant for economic development in the Adirondacks. During his stormy two and one-half years at the helm of the APA, Governor Pataki was forced to intervene on a number of occasions to reverse Campbell's actions.

Greg Campbell followed his own agenda and not the Governor's and this is what eventually cost him a position with authority. Campbell tried to expand clearcutting options three times, tacitly approved Essex County's plan to sell its landfill to a private company that planned to import waste into the Adirondack Park, vigorously supported expanded motorized use of the Forest Preserve, tried to purge the APA staff and chop it by 25 percent, did his best to undermine water quality protections, and regularly opposed public hearings at the APA. Campbell's core principle was that environmental laws in the Adirondack Park should be no more of a burden than laws affecting other localities across the state. No special protections here.

In the end Mr. Campbell's clumsy efforts to push his own agenda embarrassed Governor Pataki on too many occasions. Campbell had big supporters who are fundraising mavericks for the state Republican Party and they spoke with their checkbooks and kept Campbell in his job for months after Pataki had decided to bounce him. A testament to the influence of these Party stalwarts is that Campbell was not fired, but given a raise and promoted to a new, although powerless, sinecure. Such is politics and state government in the Empire State.

Peter Bauer is the executive director of the Residents' Committee to Protect the Adirondacks and can be reached at P.O. Box 27, Main Street, North Creek, NY 12853, (518) 251-4257.

Maine Woods Watch

by Jym St. Pierre



The Maine Woods is the greatest remaining wildland east of the Rockies. However, today this region is under siege. Maine Woods Watch is devoted to documenting the good, the bad, and the ugly affecting the Maine Woods, with an emphasis on opportunities for citizen action to protect and restore the essence of the region, its wildness.

The Cutting Edge

We have achieved political stalemate at the ballot box over forestry reform. Both the proposed citizens' initiative to ban clearcutting and the compromise Forest Compact have been killed by Maine voters during the past two years. While forestry reform failed, the fight was voted one of the top five news stories of 1997 in Maine. The bruising campaign seriously split the conservation community.

Now the focus has returned to the state legislature. In December, hundreds of citizens testified on a dozen holdover forestry bills at a nine hour hearing convened by the Agriculture, Conservation and Forestry Committee. But the fault lines have shifted.

Conservationists are now speaking with one voice. More than a dozen environmental organizations have joined forces to support a single set of legal changes: stronger clearcutting restrictions, sustainable harvesting limits so cutting will not exceed growth, better forest regeneration stocking standards, and public accountability for large landowners through mandatory audits. (Contact Forest Ecology Network, PO Box 2218, Augusta, ME 04338.)

The forest industry, by contrast, is deeply divided between those who want to lay low and hope the fray blows over and those who want to seize the opportunity to polish their public image. Even the industry magazine *Northern Logger* ran an editorial in December scolding that it has "become abundantly clear in recent months that some companies would rather play games than help institute a meaningful" Sustainable Forestry Initiative. (Contact, MPPA, PO Box 5670, Augusta, ME 04332.)

A third faction is comprised of private property rights advocates and small woodland owners. Many of them used to be opposed to the existing Maine Forest Practices Act regulations. However, now they insist those rules are just fine, so no new laws are needed. (Contact Common Sense for Maine's Forests, PO Box 111, Garland, ME 04939.)

The Maine Legislature has worked hard in recent years to make itself irrel-

evant in the raging forestry debate. Look, for instance, how they had minimal deliberation on the momentous Forest Compact before passing it on to the voters virtually unchanged. Still, this could be the year state representatives actually do what they were elected by the public to do, namely represent the public interest. It is clear from the statewide votes, the polls, and the turnout at public hearings that a majority of citizens want stronger laws governing forest management by the industrial landowners.

Northern Discomfort: Hunting & Trapping on New Baxter Lands

Lee Perry has stumbled badly on his first big chance to lead the way to the high road. Perry moved back to Maine at the end of 1997 after 13 years in Arizona to become Commissioner of Inland Fisheries & Wildlife. In that capacity he also serves as one of the three members of the Baxter State Park Authority. For over six months the Authority had been wrestling with the question of what uses to allow on 2,669 acres purchased as an addition to the park. Numerous groups had recommended that the new area be managed

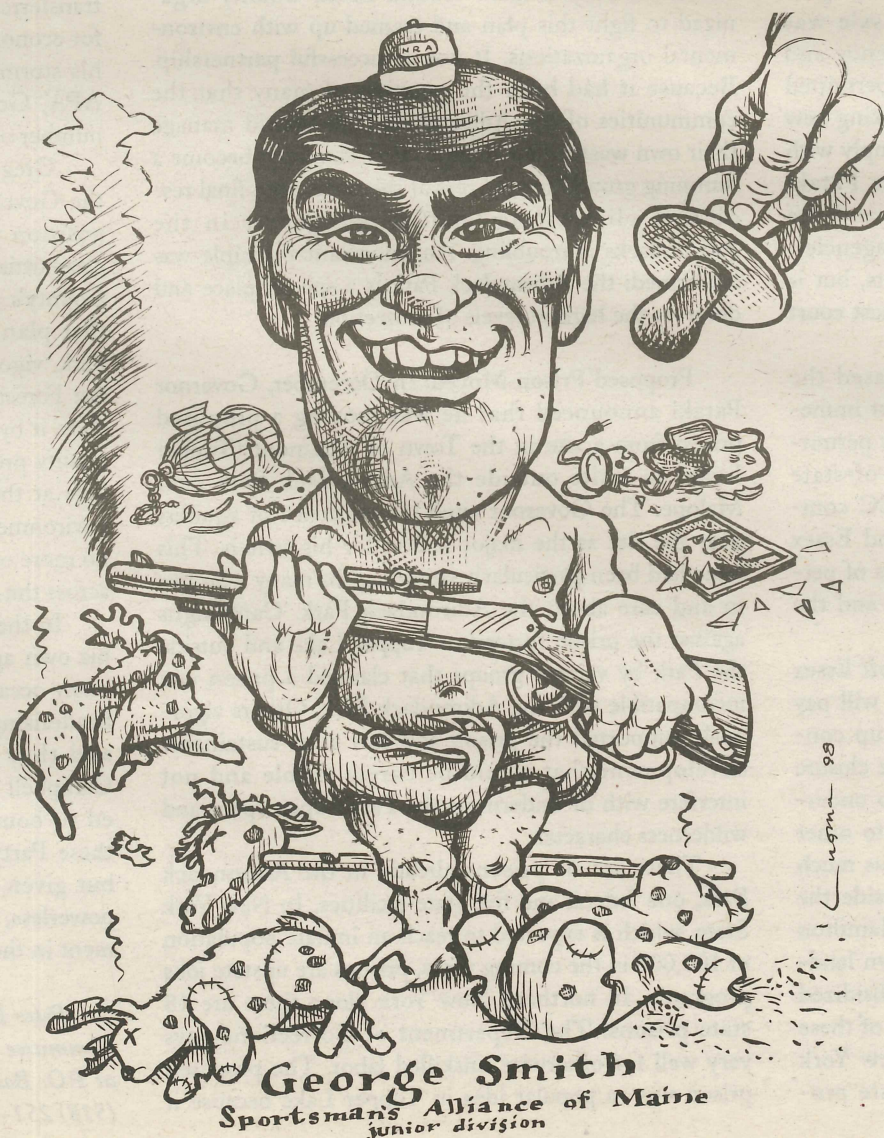
the same as adjoining "sanctuary" lands where hunting and trapping are not allowed. They said Governor Baxter's money was used to acquire the lands and he clearly would have wanted it used to preserve the place, including all the local critters. Among those urging maximum protection were a special committee set up by the Authority to study the issue, the full park advisory committee, the park Director and staff, the Authority's legal council, members of the Baxter family, at least four major conservation organizations, and many citizens.

In contrast, the Sportsman's Alliance of Maine and the Millinocket Fin & Feather Club threw a tantrum. George Smith, Executive Director SAM, led the brutal assault threatening that SAM would not support future public land acquisitions if hunting and trapping were not allowed on the new Baxter lands. Never mind that all other public lands in Maine are under agencies other than the BSP Authority. And never mind that there can be no legal cause-and-effect relationship between Smith's threat to the BSP Authority and future acquisitions by separate public agencies. Despite these disconnects the threat worked.

Of the Authority members besides Lee Perry, Chuck Gadzik, Director of the Maine Forest Service, wanted to allow hunting and trapping, while Andrew Ketterer, Maine Attorney General, did not. On January 13, though he had not participated in any of the previous meetings on the issue, Perry cast the deciding vote to allow hunting and trapping. A separate unanimous vote to eventually restrict vehicular access on the property will limit the impact of not designating the new lands as sanctuary. However, the success of the politics of intimidation already has emboldened the hunting lobby to consider pushing for more privileges in the park. The extreme position taken by those groups suggests they are not willing to support even the most modest efforts toward balance. Perhaps this incident will prove to be an anomaly and Lee Perry will yet demonstrate that, like Percival Baxter, he can rise above the clamor of the moment to make decisions for the long-term public interest. (Contact Baxter Park Authority, 64 Balsam Drive, Millinocket, ME 04462.)

Sadly, Baxter State Park is not the only place in Maine where open space is being held hostage these days. Congress has appropriated funds to complete public purchase of lands along the Appalachian Trail before the millennium. That may not happen. The last unprotected stretch of the AT in Maine consists of three miles along Saddleback Mountain where Saddleback Ski Area officials have blocked protection of an adequate corridor for more than a decade. Lately they have been twisting the facts to recruit Maine's US Senators to help them get what they want. What the ski owners want is minimal land being returned to public ownership. Senator Olympia Snowe herself convened a closed door meeting in late January which produced no resolution, but did get the parties in the same room. (Contact Appalachian Trail Conference, PO Box 807, Harpers Ferry, WV 25425.)

Government bashers have succeeded in scuttling a proposal to nominate the Penobscot River watershed as one of 10 American Heritage Rivers to be selected this year. The designation would have brought national recognition, funds for local river projects and no new federal controls. However, opponents, led by Maine Conservation Rights Institute and Unorganized Territories United, said the program smelled of federal regulations just out of sight. While the heritage proposal has been dropped, the group which had



been working on the idea will expand to include paperworkers and private property advocates and will continue to discuss issues in the watershed.

This Land Is Your Land

Not really. Hundreds of years of land appropriation and privatization have left Maine with less than 6% of our roughly 20 million acres in public ownership. Today, absentee corporate interests own or control millions of acres in the Maine Woods. In fact, Maine has the largest concentration of industrial ownership, the highest proportion of foreign ownership, and one of the smallest fractions of public ownership of any state.

It is important to celebrate the small victories and to tirelessly advocate for a better balance of public and private lands in Maine. A couple of recent victories to celebrate are 157 acre Lines Island in Bath and 150 acres at Bald Head in Arrowsic. Both sites have been returned to the public domain and will be managed by the Maine Department of Inland Fisheries & Wildlife. More good news is that, after years of wrangling, nearly 5,000 acres at the former Loring Air Force Base is finally being transformed into the Aroostook National Wildlife Refuge. Also being finalized is a deal that will protect some of the most sensitive lands on the west shore of Donnell Pond in Hancock County where the Maine Bureau of Parks & Lands already manages 14,000 acres.

A Land Acquisition Priorities advisory committee appointed by the governor and the Maine Economic Growth Council have both recommended a short-term goal of increasing public conservation land in Maine by 10% (100,000 acres) by the turn of the century. The 1998 version of the Growth Council's *Measures of Growth* report says we have added 60,000 acres since 1993 and need another 40,000 to reach the goal. To do that will cost upwards of \$75 million. The governor's committee called for a \$45 million state bond issue this year to get the ball rolling. By late January Gov. Angus King had not publicly revealed what he would propose, but he had hinted privately that he may not support a bond larger than \$10 million. It could be even less, despite the fact the State is anticipating a \$200 million budget surplus.

What is indisputable is that the amount of public land is not keeping up with the increasing demand for wilderness experiences in Maine. For instance, overnight use of the Lower West Branch of the Penobscot River jumped 13% last year to 23,500 camper days. It may be rising even faster on the Upper West Branch Penobscot. The Bureau of Parks & Lands wanted to issue a new brochure promoting the Penobscot waterway, build lean-tos on Gero Island, and get an additional ranger for Lobster Lake. The first two ideas have been scratched by the waterway advisory committee because they would diminish the wild character of the area.

Smoked Salmon

The big fish story of the holiday season was the Atlantic salmon. On December 15 the greatest show of political muscle I have ever witnessed in



Maine flexed under the State House dome. Gov. Angus King, US Interior Secretary Bruce Babbitt, various undersecretaries and federal and state agency officials, the entire Maine congressional delegation, power players from the forestry, aquaculture and agriculture industries, and bystanders from a range of environmental organizations gathered to hear what they already knew. That the proposal to list the salmon under the federal Endangered Species Act "is hereby withdrawn." Instead a plan the State of Maine compiled will prevail.

One of the most amazing features of the event was the vocabulary gymnastics. In 1997 a grand total of 38 salmon returned to Maine's seven so-called Downeast rivers to spawn. Five of the rivers had zero salmon. Yet at the news conference there was no discussion of the imminent threat of extirpation of wild salmon in the United States. There was only rejoicing that the "threat" of federal regulations had been removed. Similarly, when the governor, speaking extemporaneously, started to say the state's plan would provide a chance (though no guarantees) of "restoring" self-sustaining numbers of salmon to our rivers, he stumbled on the R word. He substituted "bring back." A snicker swept the crowd as one of the agency heads whispered an explanation of the joke to Mr. Babbitt. It was RESTORE that filed the original petition to protect the Atlantic salmon under the ESA. But, after criticizing the organization for the past four years, the governor did not want to admit it was RESTORE's petition which riveted public and political attention on the plight of the species.

What happens next is uncertain. The state has essentially admitted that its efforts on salmon restoration over the past half century have failed, that its new plan relies on the same old programs and on the voluntary cooperation of businesses that have profits at stake, and that it cannot commit more money to salmon restoration. The federal agencies are under enormous political pressure to not list controversial species under the Endangered Species Act. In fact, a report by the group Public Employees for Environmental

Responsibility, coincidentally released the same day as the salmon news conference, found that "The Department of Interior and its Fish & Wildlife Service have suspended enforcement of the Endangered Species Act, systematically refusing to list new species despite the findings of their own scientists...for nonbiological reasons, in clear violation of law." A number of conservation organizations are considering suing to overturn the dismissal of the salmon listing proposal. (Contact RESTORE, PO Box 1099, Concord, MA 01742.)

Perhaps most troubling is that the state plan is being touted as a national model. If it turns out to be a plan for the extinction of wild Atlantic salmon in the United States it will be a horrific national model. Well, some folks are not too worried about losing species or setting poor precedents. Jon Reisman, the fellow who started the radical group Washington County First!, said listing the salmon "would have represented a summary execution of Washington County's fragile economy....RESTORE is still armed with an assault weapon called the endangered species act and they have demonstrated the intention and ability to continually spray northern and eastern Maine with a fusillade of proposed listings....[W]e will continue to fight a series of expensive and divisive battles against eco-terrorists like RESTORE." Reisman and his friends are indeed fighting to undermine the ESA. They are backing S.1180, a bill introduced into Congress by Senator Dirk Kempthorne (R-ID), which would gut the Endangered Species Act. An alternative, H.R. 2351, introduced by Rep. George Miller (D-CA) would reaffirm and strengthen the law. These bills may be taken up soon, so you might want to contact your congressional reps.

Chips: Miscellaneous News About the Forest Industry

Besides the big news about its mills, Bowater had two announcements recently. First, it revealed it is trying to buy a stake in a newsprint mill in Korea at a bargain price while the Asian economy is in turmoil. Second, the company told the Land Use Regulation

Commission it wants to build up to half a dozen log cabins in the Penobscot West Branch region for hikers, skiers and snowmobilers. Even Baxter State Park director Buzz Caverly is supporting the new venture as a way to handle some of the overflow recreational demand which the park cannot accommodate.

Recycled paper mills are having bad times. Two hundred sixty of the remaining employees at the Kimberly-Clark mill in Winslow were laid off in December and January. A skeleton crew is keeping the mill luke warm in case a buyer is found. In Augusta a Thanksgiving vacation turned into pink slips for the 115 workers when the Tree-Free Fiber recycled paper plant collapsed financially and went into receivership. As many as a dozen buyers have looked over the mill, but no deals have been struck. Tye-Sil Corp. of Montreal has decided not to open a 50-job plant in Madawaska. However, Valley Paper LLC plans to start up a smaller waste paper mill there soon.

Champion International unveiled a new \$2 million paper and print testing lab in Bucksport. At the same time, local and state officials have begun roundtable talks with the company over its long-term future in Maine. Champion says it wants to spend \$121 million on capital improvements.

South African Pulp & Paper Industries has earned ISO 9002 certification for its Somerset mill in Skowhegan. Georgia-Pacific has again shut down its oriented strand board plant in Woodland, this time for at least four months. United Timber has filed for bankruptcy. Problems with the company's huge new pine mill in Dixfield have caused a crimp in cash flow. A legislative advisory panel has rejected a proposal for mandatory licensing for loggers. They want to see the timber harvesting notification system improved instead.

Mineral Technologies Inc. is building an \$11.5 million chemical plant to pipe calcium carbonate into the Madison Paper Industries paper mill in Madison. The synthetic chalk will be used in the production of supercalendered paper such as for the New York Times Sunday Magazine. Madison Paper also chalked up an embarrassing citation from the Maine Human Rights Commission which says the company discriminated against a woman who lost a promotion to a less qualified man.

HoltraChem Mfg. has agreed to a settlement with the state that includes a record \$736,000 fine and \$1.5 million for corrective actions. The firm has a track record of illegal mercury, chlorine and corrosive wastewater discharges from its Orrington facility. HoltraChem makes caustic soda and chlorine gas used by the paper industry.

More than 300 tree farmers from around the country assembled in Maine this fall for three days of workshops and demonstrations. Perhaps the Vernal Nadeau family of St. Francis should have attended. They have been fined \$12,000 for the largest illegal clearcut discovered since the Maine Forest Practices Act went into effect in 1991. The Nadeaus clearcut 246 acres and

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EVERY PERSON'S NEED

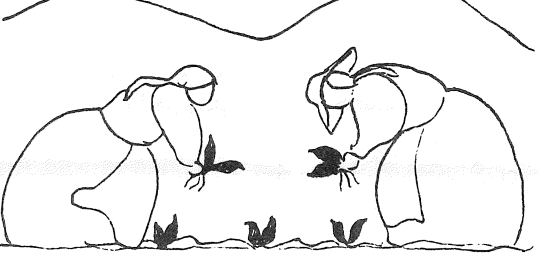
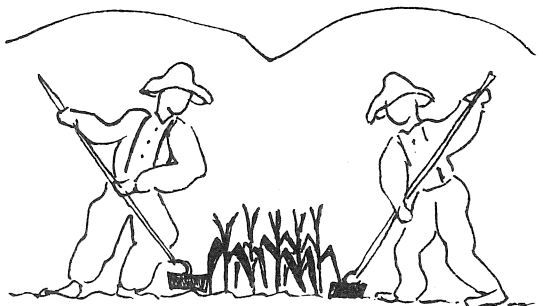
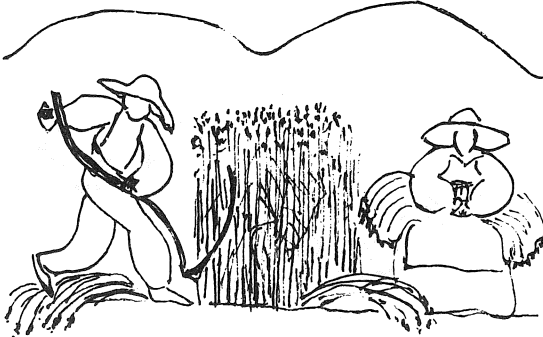
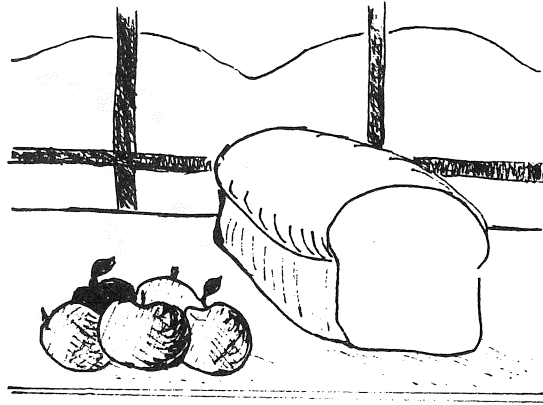
Consumer Heresy

by Michael Phillips

Ultimately two things define each one of us. Work and love. Not what we own. Not what we wear. Not our investment portfolio. These are false messages from an image conscious society. Television and slick magazine ads have pushed us a long ways from some basic earthly pleasures and realizations. What were once 'luxuries' are now considered necessities by many people. Things like dryers and television sets and snowmobiles. We claim there's no time for involvement with our food supply, educating our children, or taking responsibility for our communities. Time for each other is in short supply. The poetry of life rarely comes to the fore. No, we have debts to pay, more things to buy, fun to finance.

Yet there is another way. The so-called simple life is about emphasizing the meaningful parts of our short time on earth. Doing with less stuff in order to have more fulfillment. Not getting into so much debt in order to not need as much income.

Changing one's lifestyle can begin with asking how much is enough. Start



with what you don't yet have. The dross of the past and choices made long ago can be sorted—and shed—as you go. Time reveals the unimportance of so many things, regardless of how deep the attachments seem to run at

"There is enough for every man's need, but not enough for every man's greed."

—Gandhi

the moment. Now is the time for family and friends, crafting your God-given talents to more directly achieve the necessities of food and shelter, and breathing in the richness of this incredible Creation. All brought about, in part, by shopping less.

Shopping for a better future involves asking yourself some fundamental questions each time you reach for the ol' wallet:

- Do I already have one?
- Where was this made and how are the people treated?
- Which corporation is getting rich by this purchase?
- Does this support the local economy?
- How much environmental damage (from start to finish) comes with this purchase?
- Can this be maintained readily? Is it made to last?
- Do I really want this in the years to come?

Don't go preaching this line at the nearest mall—we don't want any of our dear **Forum** readers being stoned for consumer heresy quite yet.

Simple Living Quotes

✂ Life to millions is a hardship from labor and poverty; to others a curse through vices and the depravities of wealth; to a few a blessing through good health, good nature and facile contentment, and in this class your humble servant belongs. Always ready to work; never chained to the wheel of traffic; comfortable with small earnings, the result of early drill and self-denial made easy from habit, he has plodded along, quite unambitious for wealth; regardless of fame; earnest in acquisition of knowledge on a small scale; rather careful not to know too much; quite skeptical as to believing fashionable lies, and always punctual in paying debts.

—William Reed
Life on the Border, 1882

✂ I do not think that any civilization can be called complete until it has progressed from sophistication to unsophistication, and made a conscious return to simplicity of thinking and living.

—Yin Yutang

The Importance of Living, 1938

✂ The inhabitants of these villages [in Ladak, Tibet] must surely be some of the happiest on the face of the earth. One can only pray that no zealous enthusiast will feel impelled to "raise their standard of living," acting on some sociological theory worked out under totally dissimilar circumstances. Certain writers have alluded to the poverty of the people, doubtless referring to their lack of ready money and

their rather Spartan simplicity of life. There is no luxury, nor a big margin of food supply, but if the enjoyment of a sufficient, if rather unvaried diet—composed of tasty, unadulterated food—and the leading of a healthy, outdoor life in majestic surroundings, with work which has its leisure as well as strenuous phases, the wearing of durable and comely homespun clothing, the dwelling in spacious, well-built homes, and the possession of a restricted number of objects pleasing to the eye—if all this be poverty, then let us deplore our wealth!

—Marco Pallis
Peaks and Lamas, 1939

✂ Human beings, under any set of circumstances, can behave well or badly.

Whatever the circumstances, it is better to love, create and construct than to hate, undermine and destroy.

—Helen and Scott Nearing
Living the Good Life, 1954

✂ To change the world may seem a formidable task but that just isn't so. The changing of our lives to a more human scale by each of us will lead to a new world for us all. If we change our ways, if we regain our dignity, our security and our simple joys, we won't need to lift a finger to save the planet. It will save itself and become the paradise our forefathers mistakenly took for granted.

—Ferenc Maté
A Reasonable Life, 1993

The Land That Feeds Us

"The keystone of local economy is agriculture"

Imagine your food grown from genetically-altered plants on fields spread with municipal sludge, then irradiated, and then certified organic by the USDA for your dining pleasure. That's one current take on the proposed national organic standards recently released by the federal government. The idea behind authorizing the Department of Agriculture to unify the varied standards of state and private certifying agencies was to provide a consistent set of guidelines across the country that consumers could trust. The folks in Washington did a consistent job all right . . . the trust, however, that the term organic implies a safe and ecologically-grown food supply, may well be out the window.

The National Organic Standards Board presented the USDA with draft rules that were formulated over several years by consulting with organic growers across the country. The draft rules may not have pleased everyone but they did specifically recommend that genetically-altered plants, irradiation, and municipal sludge not be considered acceptable organic practice. Apparently this was a bit hard for the USDA to swallow. The whole notion of certifying organic farms doesn't set well in some political circles: it suggests government approval of such foods as safer than chemically-protected fare. A radical notion, eh? But not to worry. Throw in some radiation preservation, gene-splicing expertise, a hefty dose of municipal heavy metals, and well, you have the proposed organic standards.

A case in point is the "Bt potato." The bigwigs at Monsanto felt they needed to offer a 'New Leaf' spud plant that genetically includes the *Bacillus thuringiensis* bacterium within the leaf itself. Bt is probably the most potent tool an organic grower has to ward off numerous caterpillars and the larvae of the Colorado potato beetle. Upon ingestion, a protein crystal is exposed within the Bt spore that neutralizes the enzymes protecting the larvae's stomach lining from its own digestive juices. Holes are quickly eaten through the target organism's stomach wall with a resulting poisoning of the bloodstream. The caterpillar stops feeding within hours of ingesting the Bt and dies within a day or three. The challenge is getting the larvae to ingest the toxic bacterium, which Monsanto has "solved" by making the bacterium part of the plant. The problem is that any given population of an insect will eventually develop resistance to any such broadly-applied approach. Prudent use of Bt (by spraying) avoids this resistance as adult insects continue to cross-breed with wild populations. Acres of potatoes, all genetically-lined with Bt, will soon become haven to super bugs that need no longer fear our biological control. Chemical growers will simply go back to organophosphate number 132; organic growers will lose their crops. But I forgot . . . the USDA will consider us all organic growers, right? And why should consumers really care what genes are spliced into the food that we eat? Perhaps soon we can have our meat, potatoes, and the odd veggie essence all provided in a single plant.

I'm a certified organic apple grower and a non-certified organic market gardener. Certification in this neck of the woods is done by the New Hampshire Department of Agriculture. The rules are legitimate and worthy of the term organic. We meet those rules to the letter, if not beyond, both in our orchards at Lost Nation and in our vegetable gardens at Heartsong Farm. Certification helps with marketing our organic apple products down country. All our vegetables and medicinal herbs are sold locally where people can look us in the eye and readily hear the full story of why we do what we do. Knowing where your food comes from—and the people doing the growing—has much greater meaning than paying anyone to certify that I as a grower am telling the truth. Problems arise when we move beyond the level of intimacy found in true local economy.

It is true that the standards of some certifying agencies elsewhere can be found to be more lax, particularly where the needs of industrial agriculture are met. National organic rules are meant to provide a consensus on what organic means, and the specifics that growers and processors need to follow. Such consensus rules can too quickly be shaped by market forces into a perception that meeting minimum requirements is good enough for consumers—which in education circles would be called "dumbing down." Local standards leave room for higher aspirations; heeding the big boys is a solid floor from which no grower can claim to do more and still be reasonably competitive. Pass the plate of Bt potatoes now please.

There's a relevance here for forestry stewardship certification as well. People both look to and expect the federal government to get involved. Private certification labels vary, and with advertising spin so effectively done today, it's legitimate to ask: "how do I know this wood is truly green?" There's a neighborly answer to that question. Being able to look a forester or woodworker in the eye—and see the care being given the forest—speaks to truth. A friend or local conservation group that's up on such matters can help when direct involvement isn't possible. Same goes for a certifying body whose stewardship philosophy is one you share. The Forest Stewardship Council evaluates and accredits forest certifiers whose own standards match or exceed those of the FSC.

A good rule of thumb in all this remains small is beautiful. Anyone wishing to make comments to USDA on the proposed organic rules should address their idealist ravings via the Internet to <http://www.ams.usda.gov/nop> by March 15. Or write Eileen S. Stommes, Deputy Administrator, USDA-AMS-TM-NOP, Room 4007-S, Ag Stop 0275, P. O. Box 96456, Washington, D.C. 20090.

But First Let's Do The Numbers

Twenty-five thousand small farms with sales between \$10,000 and \$100,000 closed up shop in the past two years. Agrarians don't throw in the towel readily, but years of hard work in the red catch up to even the more encrusted idealists. The 27 percent of the nation's farms classified as self-supporting or "commercial" account for 90 percent of agricultural sales and 70 percent of farmland. Not much room left for the little guy in that scenario, is there? So next time you go shopping, remember that local farmers need you. Help start a farmer's market. Purchase a produce share from a community supported agriculture group. Encourage your grocer to pay a premium for locally-grown organic food. We need more people stewarding the land that feeds us, not less.



"Hayrake." Edgecomb, Maine. Reprinted from *Winter: Photographs from Mid Coast Maine*, by Robert Mitchell of Boothbay.

The Two-Year-Old Ecologist

by Grace Elena Phillips

My Daddy and I went out for a walk in our snowy woods the other day. Snowshoe hare tracks zigzagged every which way. The deer knew but one trail, straight to our apple orchard. But we were out to visit the forest trees. A veneer coat of ice covered the trunks on many spruce from top to bottom. Our woods had escaped the snapping destruction of much thicker ice. A birch had been blown over on its side across our brook. Daddy pointed out its shallow root system atop the rocks underlying the water. We decided this was timber to revisit once we build a sweat lodge come spring. Up on the knoll, a particularly large red pine beckoned us closer. It's bark was scaly yet smooth. Daddy hugged our tree friend and then I did. It's spirit was strong. We saw that we had not been the first visitors. Black bear hairs were wedged into the thick bark. I assured Daddy that the bears wouldn't eat us and then we walked home.

INTERVIEW WITH FOREST ECOLOGIST DAVID PERRY: PART II

In part one of this two part interview, forest ecologist David Perry spoke with forest activist Barbara Alexander about the ecology of forested ecosystems and aspects of ecosystem management. Here they continue their conversation, focussing on the challenge of carrying ecological insights into forest policy and decision-making.

Integrating Science & Community in Decision-Making

BA: The success of the implementation of ecosystem management will depend, at least in part, on improved communication among scientists, land managers, policy makers, and the forest community. You spoke earlier about a team approach, but you didn't mention the forest community.

DP: By forest community you mean the people who are living and working in the forest. Oh, yes. I think it's essential that these people be included for a couple of reasons. One is that they are often very knowledgeable about what will work and what won't work. They've gotten insights, and that wisdom needs to be drawn on. The other reason is that they're the ones on the front lines, they're the ones who depend economically on what happens in the forest. And so they have a rightful say.

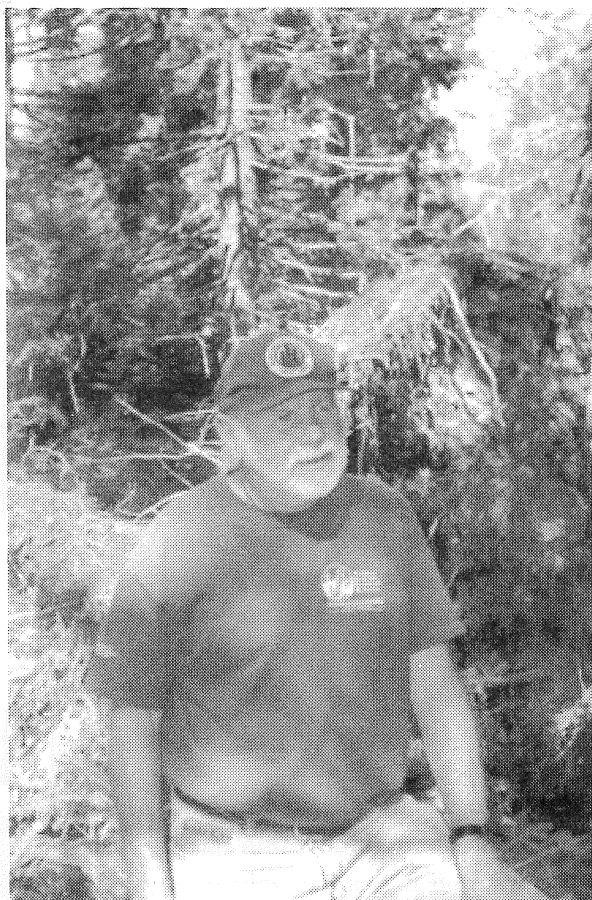
But I think it's very important that, whoever comes to the table, they come, as much as possible, aware of what the various options are and what the trade-offs between the options are. I remember seeing a video once, actually I was one of the people in it, and at one point in the video I was talking about the importance of keeping some big dead wood out in the system to maintain ecological services. They cut from that to an interview with a logger who was saying, well, gosh, we've got this dead stuff out there, why can't we take it away and use it, it doesn't do any good out there.

Well, I felt badly about that because they had set the logger up to look stupid, and I didn't like that, they're not stupid. But they don't have, and shouldn't be expected to have, a lot of the knowledge that's developed ecologically over the last 10 or 15 years about the importance of maintaining integrity in the system. There's a big education job to be done.

BA: Yet some have argued that scientists should work directly with policy makers without the influence of land managers or forest community stakeholders. Do you think that some scientists and policy makers feel that the value of scientific information can be reduced by working with citizens of a forest based community?

DP: Well, yes I do. I think it's unfortunate but it seems to be not too unusual that policy is made without consulting the affected communities. That's happening here in Hawaii right now and it has raised a fire storm. People in the communities are greatly pissed because policy makers are making decisions and then coming to the community people afterwards. We need to get everybody to the table.

This is not to say that scientists shouldn't be going to policy makers when asked. They should be, and hopefully they're going to be asked more and more in the future. It doesn't mean that every discussion has to have everybody present around the table, but we have to reach out to all of these different groups with the knowledge they need in order to make the decisions that will take them in the direction they want to go. The policy makers may get informed and make a given decision based on certain information, but if the people don't have that information, the stakeholders, the forest communities, they have absolutely no way of understanding the basis for that decision. It's the old story about how you grow mushrooms, you know, you keep them in the dark and feed them a lot of shit. (Laughs.) If we're moving toward community sustainability, we've got to get out of that mode and engage everybody in the dialogue. And the scientists have got to be talking to everybody who's going to be playing a part in the decision.



One of the things that we've learned in the Pacific Northwest is that one piece of ground in which things are done differently can have an amazing catalytic effect, so long as things are done successfully. If you have somebody out there who's managing their forest in a different mode, in what we believe to be a more sustainable mode, and making it work, then you bring people to see that and all of a sudden what had been some pointy-headed professor's crazy idea becomes reality, because someone in the real world is doing it.

—David Perry, forest ecologist

Vermont Citizens' Forest Roundtable to Sponsor Spring Ecosystem Management Training Weekend with Dr. David Perry (May 29-31, 1998)

VCFR and the Maritime Forest Ranger School will be offering a three day course on Ecosystem Management with ecologist, forester, and author Dr. David A. Perry. The course will feature two days of interactive classroom instruction during which time participants will work together to design an ecosystem management design for a large tract of timberland in Vermont. On the third day, members of the newly organized Vermont Low-Impact Loggers' Guild and manufacturers of low impact logging equipment will give demonstrations to introduce VCVR's pilot program for Vermont's Low Impact Forestry Network. This program will connect loggers, landowners, and foresters who are committed to promoting the goals of ecosystem management and who are willing to use their harvesting sites for public education.

Foresters will receive continuing education credits for taking the course, but anyone interested in the future of forests and forestry in our region is invited to attend and will receive certification for ecosystem management training. The three day training weekend is scheduled for May 29th, 30th, and 31st, and will be held at the Craftsbury Outdoor Center in Craftsbury, Vermont.

BA: Let's take this one step further for a moment: how can we as stakeholders best communicate scientific knowledge to our policy makers—independent scientists are not always available to come to the table—and should we hold policy makers accountable for the use of the best available data regarding forest ecosystems?

DP: Oh, yes, you should hold the policy makers accountable, but at the same time, we have to set up better mechanisms for getting that information to whoever needs it. This is a tough nut, because a lot of scientists are very suspicious about getting directly involved in social issues. But more and more, I think, scientists see this as not only part of their role, but maybe the most important part of their role.

Part of what we have to bring into the mix are people who are knowledgeable about communication. I sometimes think about the bare foot doctors who run around in the villages in Africa; society could train some bare foot ecologists and ecosystem management specialists to get out there and work within communities.

This is a role for the universities, as we talked about before. But, again, we come back to the issue of funding: who's going to pay for it. Society has to decide if this is something we want to pay for, and give clear directions to the universities. Then the universities need to get more involved in beefing up their capabilities for reaching out.

We have a long tradition of extension in this country, in the Ag schools in particular and in the forestry schools to a certain extent. But for the most part, a university has been a place where people come and they get their heads opened up and they get a bunch of stuff poured in and then they go away. But, now, as we struggle with moving toward sustainability, we've got to draw more on the model of the university as an extension reaching out into the communities.

BA: Efforts to protect and restore forests must be made globally. How can the adoption of ecosystem management, ecoforestry, and community based forestry on the local and regional scale influence the larger picture?

DP: That's a good question. There is of course the additive effect—the more you do the more you begin to move the global landscape toward a sustainable position. But there's also much more. One of the things that we've learned in the Pacific Northwest, and this should not be a surprise, is that one piece of ground in which things are done differently can have an amazing catalytic effect, so long as things are done successfully.

If you have somebody out there who's managing their forest in a different mode, in what we believe to be a more sustainable mode, and making it work, then you bring people to see that and all of a sudden what had been some pointy-headed professor's crazy idea becomes reality, because someone in the real world is doing it. And so people go away and say well, O.K., maybe I can do this myself. This would be part of the education process—setting up tours, setting up outreach in which you would take people around to see what others are doing differently, so you can get out there and talk about it.

If you don't have people out there who are trying different things, then you don't have anything to show anybody and it just remains in the realm of the theoretical and we just sit around tables and talk about it *ad nauseam*.

Soil & Plants: Dance of Mutual Creation

BA: You've described the soil-plant relationship as 'a dance of mutual creation.' Would you describe the role soils play in maintaining a stable ecosystem and explain how breaking the link between plants and soils can effect potential site productivity?

DP: Plants need about eighteen elements as nutrients; microbes, and animals need another eight or nine. All

but two of those come from the soil. So the soil is the repository of most of the building blocks for life. The soil is the bank that holds the water between rainfalls and that modulates it out either to streams or to the air in an orderly way.

Soil is, by far, the habitat of the greatest number of organisms in systems, probably 80% of the animal biomass in forests is below ground. The food chains belowground are generally longer, more complex, more diverse than the food chains above ground. All of that life below ground in soils, and the physical structure of soils that gives them this capacity to store water and yet to drain water and to let air in, comes from energy that has been put in by plants. Plants pump about 50% of the energy they capture in photosynthesis below ground. Some people believe it's more than 50%, and I'm one of those people.

So a lot of the energy that's gathered by plants goes below ground, and it builds soil structure and feeds organisms, and a good share of these organisms are doing things that feedback in a very important way to the growth of the plant: they're cycling nutrients, they're gathering nutrients and water, they're helping to protect the plant against pathogens. That's what I was referring to when I said the plant and soil become joined together in a dance of mutual creation. The soil ecosystem depends on the energy from the plants and the ability of the plants to gather that energy depends on a fully functioning soil ecosystem.

Forests everywhere are disturbed to one degree or another. We talk about ancient forests, and they may be ancient but they're not immortal. Trees die. Sometimes large scale disturbances come and wipe out large numbers of trees. One of the primary mechanisms of resilience is the ability of plants in a system to recover very quickly; and often they're a different set of plants than the one that we focus on commercially. They're hardwood shrubs that can sprout from roots or that store seed in the soil where it's triggered to germinate after a disturbance, or they're annual plants whose seeds are dispersed widely on the wind—a whole collection of things that come up and stabilize the soils. And they maintain soil integrity as the system recovers.

One of the classic studies in ecology was done on Hubbard Brook Experimental Forest back in the late 1960s. They logged some areas, herbicided all of the early successional vegetation, and then looked to see what happened in the streams. What happened was predictable, but it had never been demonstrated quite so elegantly before. When you knock out that early successional recovery mechanism, nutrients start bombing out of the system, soil integrity is disrupted. A lot of nutrients are lost, and it may take a long, long time to build those back up again.

It's an interesting thing—there has been much talk among ecologists over the last ten years or so about the importance of disturbance in systems and how changeable natural ecosystems are; and that's certainly true if you look aboveground. Over decades and centuries there is quite a bit of flux in ecosystems, and in the plants that are present, the trees that are present, and so forth. But if you look below ground, things change much less, they tend to be more stable, and those points of stability are what confers the ability of ecosystems to hang onto integrity and reform themselves over time after disturbances.

Mycorrhizal Fungi

BA: I wanted to ask you about the role of mycorrhizal fungi. You've already addressed this issue when you were speaking about the exchange of nutrients and the protection from pathogens in the below ground ecosystem. But how key a role is this?

DP: It's absolutely essential. There are very few plants in the world that can grow successfully without mycorrhizal fungi. All forest trees in the temperate and boreal forests, and probably all of them in the tropical forests as well, require mycorrhizal fungi. The mycorrhizae gather water and nutrients, protect against pathogens, and extend the life of feeder roots. There may be thousands of times more gathering surface in hyphae of mycorrhizal fungi than in roots. By far, the greatest presence of trees below ground is manifested through the mycorrhizal fungi.

By far, the greatest presence of trees below ground is manifested through the mycorrhizal fungi. It's now clearly established that mycorrhizal hyphae link trees of the same and different species, and that nutrients and carbon move between trees through these linkages. When you look aboveground, you see a bunch of individuals. When you look below ground, that individuality becomes less clear.

[i]f you factor in the tree's symbionts—the mycorrhizal fungi, the foliar endophytes . . . —then an evolutionary capability is conferred on the tree, through its symbionts, that puts it on more of an even par with the pathogens and the tree-eating insects. That is a little explored but potentially very important aspect of the tree's symbiosis with fungi.

It's now clearly established that mycorrhizal hyphae link trees of the same and different species, and that nutrients and carbon move between trees through these linkages. When you look above ground, you see a bunch of individuals. When you look below ground, that individuality becomes less clear.

The fungi do another thing. We're coming to believe that they confer a great deal of stability on the system because they're so diverse. If you take one tree, it's a single genotype, but that tree may have anywhere from twenty to fifty different species of mycorrhizal fungi on it. So the diversity of that one genotype all of a sudden gets manifested out into a minimum of twenty or fifty different genotypes that are present in its symbionts. When you account for the genetic diversity that is likely to exist within a given species of fungus

on a tree, that diversity is magnified even more.

The fungus has a great deal of evolutionary capability over a short period of time that trees cannot have. Trees being long-lived organisms may produce a seed crop every two or three years, but how frequently do the conditions exist so that they can have progeny that will succeed? That may be a period of years or decades, and, in some forests, like the boreal, over a hundred years. Being long-lived organisms, trees have a fairly slow response capability in an evolutionary sense, and that puts them at a great disadvantage in their evolutionary sparring match with tree-eating insects and pathogens which can turn generations around rapidly and therefore evolve very quickly.

Yet if you factor in the tree's symbionts—the mycorrhizal fungi, the foliar endophytes that I mentioned



Fischer with squirrel. Drawing by Jon Luoma

earlier—then an evolutionary capability is conferred on the tree, through its symbionts, that puts it on more of an even par with the pathogens and the tree-eating insects. That is a little explored but potentially very important aspect of the tree's symbiosis with fungi.

It's an interesting thing, if you look at both of the major surfaces with which trees interact with the environment, the crown and the roots, both are characterized by symbioses with fungi.

BA: Traditionally, silviculture has compartmentalized, rather than integrated soil productivity in forest management. Do you think we need a more balanced management approach for the above and below ground ecosystems?

DP: Oh, yes, it's all part of ecosystem management. Ecosystems are defined through interaction, they're not just a collection of things. So when we talk about ecosystem management, what we're really talking about is understanding the interactions within systems and designing our management to accommodate those interactions. One of the most important interactions is between trees and other plants and soils, and so it definitely becomes a central part of ecosystem management.

Soil scientists—the forest soil scientists—were really the first ecosystem managers. It wasn't called that back in those days, but long before anybody else soil scientists were studying sustainability, thinking about sustainability, talking about sustainability. So, in many ways, soil was the grandfather of the sustainability issue, although in modern ecosystem management soils have taken a back seat. This is unfortunate in my mind, but I understand why: much of modern ecosystem management has been driven by the need to preserve habitat, and wildlife biologists have played a central role. That's good, but we need at the same time to remember that the soil underpins the health of the whole system.

Losing Our Way on a Journey of Discovery

BA: You begin your book, *Forest Ecosystems*, with a quote by Thomas Berry: 'What is needed on our part is the capacity for listening to what the Earth is telling us.' Would you comment on the significance of that quote from the perspective of Dave Perry the scientist, and then from the perspective of Dave Perry?

DP: Actually, I had two quotes in there originally and



Long-exposed roots of a blown down tree.

one of them was cropped out by my publisher along the way. My suspicion is that I had a very conservative editor who scratched it. The second quote was from the rock band Jethro Tull, and it was a line from one of their songs that says 'Let me bring you songs from the woods.'

From the standpoint of Dave Perry the scientist, science is a process of asking questions and listening for answers. More than anything else science is defined by the fact that it sets up a protocol to ask questions in such a way that you can get interpretable answers from nature. The basic thing that must be done in order for science to work is you have to have the capability of listening to what nature is telling us.

From the standpoint of Dave Perry? I find that I draw an amazing amount of tranquility and a sense of wholeness from natural systems. Wendell Berry (another Berry) has a great poem:

*When despair for the world grows in me
and I wake in the night at the least sound
in fear of what my life and my children's lives may be,
I go and lie down in where the wood drake*

rests in his beauty on the water, and the great herons feed.

*I come into the peace of wild things
who do not tax their lives with forethought
of grief. I come into the presence of still water.
And I feel above me the day-blind stars
waiting with their light. For a time
I rest in the grace of the world, and am free.*

For me, this is one of the essential things that our society has lost—the stillness, the peace, the wisdom that comes from these ancient systems that we rely on for our life, the respect that goes along with acknowledging that we depend on these systems to give us everything that keeps us alive. We haven't lost that respect, it's just buried down deep in all the crap of modern society. We regain the ability to listen to our inner wisdom, which connects to the inner wisdom of nature, by listening, by going into the peace of wild things, by sitting, by paying attention, by being respectful.

The Hawaiians have a wonderful word, it's called *pono*. It doesn't have an exact translation into English but roughly what it means is being aligned with the positive forces of the universe, behaving with integrity toward other humans and all of nature. To the Hawaiians, if you lose *pono*, you lose your way, you become a lost person. I think our whole society has lost *pono*, and that's what we're trying to find so desperately right now. I think people are damn well aware that we have lost it; they may not know what it is, but they know we've lost something, and there's a deep grieving over this loss. I believe that we begin to regain what we have lost by listening respectfully to nature, by behaving with integrity toward the source of life.

So Dave Perry when he's a scientist goes in and does experiments and makes measurements and looks at the data and listens in that way. But when I take off my scientist hat and I just go into wild nature and I sit and listen, I always come away very enriched. I find that as I've grown older, the distinction between myself as a scientist and nonscientist has pretty much gone away.

I believe Einstein spoke for many of us when he said "One cannot but be in awe when one contemplates the mysteries of eternity, of life, of the marvelous structure of reality." Each discovery, no matter how small, reveals a beautiful order within the fabric of the universe. Scientist, nonscientist, it makes no difference. We are all on a journey of discovery.

Maine Woods Watch

Continued from page 15

stripped much of the rest of a 574 acre parcel in Haynesville before selling it for \$55,000. The fine apparently covers less than a quarter of the profit made on the liquidation cut. Equally strange is that the land was bought from Sally Rooney and her husband. She is the former chair of the board of trustees of the Maine Chapter of The Nature Conservancy.

B-I-N-G-O

The range of human activities, actual and proposed, targeting the Maine Woods continues to expand seemingly as fast as the universe itself. Aggrieved neighbors in Albany Township are taking the Land Use Regulation Commission to court for approving construction of a high stakes bingo parlor by the Passamaquoddy Tribe. The plaintiffs believe their case is improved by the new revelation that the arrangement between the Passamaquoddy and their New York financier could lead to a full scale gambling casino.

Just north of Albany, from his home base in Newry, Les Otten has some big plans of his own in the works. Otten is chairing a committee that is

putting together a bid to bring the winter Olympics to New England in 2010 or 2014. Skating events could be held in Portland, Boston and New Hampshire. Skiing events could take place at Sunday River, Sugarloaf, Sugarbush and other alpine resorts Otten's American Skiing Company happens to own in the region.

Several gigantic natural gas pipeline projects are steaming toward regulatory approval. Late last year developers of the largest of the projects, Maritimes & Northeast Pipeline, found out the Maine Dept. of Environmental Protection wanted to delay their review. Project developers immediately drove to the state capital to complain to Gov. Angus King. King, who was on a trade mission in South America, got the environmental review back on the fast track without even leaving the southern hemisphere. Gas is supposed to flow by the end of next year.

Digging will not start that soon, but Black Hawk Mining, a subsidiary of NNM Resources of Toronto, the latest in a succession of gold (and silver and copper) seekers, has applied to develop a mega mine at Bald Mountain in Aroostook County.

Some folks cannot get enough of motors and roads. The Maine Forest Winter Rally held in December on

paper company land in western Maine ended with more than half the cars sliding off the course thanks to snow and freezing rain. At the same time, momentum is building for construction of a major East-West Highway across the midriff of Maine. Advocates say Route 2 could be turned into four lanes. Others insist a better railroad, not a wider asphalt road, is what we need to

spur economic growth in northern Maine. With 25,000 miles of private logging roads already in the Maine Woods, some of us are convinced we ought to be thinking of less fragmentation.

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Good Reads

"A Changing Industry: The Future of Paper-Making in Maine," *Bangor Daily News*, Dec. 27, 1997-Jan. 1, 1998. 5-part report on how Champion, Fort James, Bowater and Georgia-Pacific are struggling to adjust to global economy.

Baum, Ed. *Maine Atlantic Salmon: A National Treasure*. 1997. Atlantic Salmon Unlimited. Documents efforts over a century and a half to restore salmon written by the guy who has led the charge for many years.

Bunting, William H. *A Day's Work: A Sampler of Historic Maine Photographs, 1860-1920*. 1997. Tilbury House. Fantastic collection, including lots of woods pictures, assembled over 30 years by a bulldozer operator who knows the value of saving old stuff.

Daly, Nonni Hilchey. "Howling at the Door," *Maine*, Fall 1997. University of Maine. Focuses on UMaine research which shows the state has some of the best wolf habitat in the US.

Hoekwater, Jean. "Butterfly Poaching for Profit in Baxter State Park, Maine," *Northeastern Naturalist*. Vol. 4, No. 3. 1997. A story about illegal collecting of rare Katahdin arctic butterflies in which the bad guys get caught but the victims get pinned.

Humphrey, Bob. "Crying Wolf," *Maine Sportsman*, January 1998. Thoughtful presentation of facts rather than hysterics about the potential for wolf recovery in Maine.

—Jym St. Pierre

The Pulp & Paper Industry's Role in Global Warming

by Adam T. Williams

According to a panel of 1,500 atmospheric scientists from the Intergovernmental Panel on Climate Change (IPCC) of the United Nations, our planet is facing a global temperature rise of up to 3.5°C (6°F) over the next 100 years. They also predict a sea-level rise as high as 1-meter in coastal regions. The Scientific Committee on Problems of the Environment of the International Council of Scientific Unions and the United Nations Environment Program predicts that by the middle of the next century, the mean global temperature may be higher than it has been for millions of years.

During a recent visit to the University of Vermont, Deputy Director of the Office of Economy and Environment of the EPA, Avis Robinson, said: "The bottom line is that the climate has changed and will continue to change." She explained that there is more carbon in the atmosphere now than there has been in 160,000 years. Working closely with the IPCC, the EPA estimates that the effects of global warming on Vermont over the next 50 years could include more intense heat waves, more insects and related diseases such as Lyme disease, loss of marshlands and waterfowl, a 50 to 100% loss of brown trout and other trout species due to rising water temperatures, and a slow northward migration of our hardwood tree species. "Over the next 100 years," she warned, "Vermonters can also expect a 4°F average temperature rise in the spring and a 5°F rise in the winter, along with a possible 50% rise in precipitation".

Global Warming and Forest Destruction

Human-created atmospheric carbon is greater in sheer quantity than any of the other greenhouse gasses we emit. Therefore, global warming is considered to be largely the result of two human activities that are believed to affect the global carbon cycle the most: the burning of fossil fuels, which is a major CO₂ source, and the destruction of forest ecosystems, which act as major carbon sinks for CO₂ when they are intact but become sources when they are cleared or burned. As I will point out, the pulp and paper industry plays a major role in both of these activities.

Some scientists have already observed that many forests, where trees are becoming overwhelmed by the stresses of over cutting and rising temperatures, are also becoming more vulnerable to natural disturbances such as fire, storms, and insect outbreaks. Fires in the boreal forests of Siberia, Canada, and Alaska have been steadily increasing since 1920 and are thought to be partly a result of stresses brought on by global warming. The IPCC claims that at the current rate of temperature change, which they believe to be more rapid than any in the past 10,000 years, the competitive balance among species could shift and "even lead to forest dieback, altering the terrestrial uptake and release of carbon".

The short and long term effects of climate change on the Earth's natural forest ecosystems therefore, in light of

ongoing heavy cutting by large corporations such as those in the pulp and paper industry, may be devastating. One environmental writer, Kevin Jardine, had this to say about the effects of global warming on boreal forests in the northern hemisphere, which are under pressure from large timber interests including those of the pulp and paper industry:

related stress. If the decline continues, the logging, burning and rotting of boreal forests could release billions of tonnes of carbon into the atmosphere as carbon dioxide, accelerating the rate of climate change—and causing a runaway greenhouse effect."

Industry Stimulates Demand

So where are all the trees going? According to the World Bank, at the beginning of this decade, global con-

the pulp and paper industry is anticipating the world's population will double every 39 years and that the global demand for wood fiber will increase in proportion to population growth. They expect current global paper consumption to grow by 50% by 2040.

Furthermore, they note that although wastepaper recycling is supposed to increase in the future, it will not remove the pressures on the forest. Indeed, although the wastepaper recovery rate in the US was as high as 38% by 1992, the US Forest Service still estimates as of 1994 that the "gross wastepaper disposal burden will remain in the range of 45 to 55 million metric tonnes per year well into the 21st century". The World Watch Institute stated in 1993: "From 1983 to 1991, the share of all paper and paperboard worldwide manufactured from recycled paper rose from 30 to 37%. Still, recycling has yet to dent the world's appetite for virgin-fiber pulp, merely slowing its growth."

As of 1991, the world consumed about 266,674,000 tons of paper per year of which Americans consumed about 85,252,000 tons annually, or 674 pounds per capita. Today, the Earth Island Institute estimates that Americans consume about 90,000,000 tons of paper annually, or 681 pounds of paper per capita, and that the yield of one 30-year-old pine tree is 117 pounds of paper. Based upon these figures, I estimate that Americans are currently consuming about one billion trees per year in the form of paper—despite recycling programs and paper supplied from non-wood sources. Between 1970 and 1990, American paper consumption grew by about 56%, and in the 1980s alone it grew 3% annually. Now in the 1990s, total American paper consumption increases by about 14 million tons annually.

Many of the disposable paper commodities that come out of the industrial tree harvest, which are not recycled—such as packaging, facial tissue, napkins, paper towels, and toilet paper—are either incinerated, releasing yet more CO₂ into the atmosphere, or buried in landfills where they release methane. Paper is the dominant material in solid waste.

According to a leading US paper industry expert, Maureen Smith, wastepaper in the 1980s comprised between 30 and 40% of American landfills. Methane from the world's landfills may account for anywhere between 3 and 19% of global methane releases, with the US accounting for 39% of global methane emissions from landfills. The IPCC estimates that there will be 50% increase in methane emissions from Earth's landfills by 2010 and a 100% increase by 2025. It is important to note that although methane is less prevalent in the atmosphere than CO₂, it is a much stronger greenhouse gas.

In reference to the world's growing hunger for paper, independent consultant Anita Kerski writes: "Tying demand for paper to a broad range of economic activities outside publishing has helped free world per capita paper consumption to expand indefinitely. . . it shows no signs, unlike per capita sawn-wood consumption, of leveling off". David Clark of the Confederation of European Paper Industries, on the other



"Unless levels of greenhouse gases in the atmosphere are quickly stabilized, global warming is likely to reduce between 50 and 90 per cent of the world's existing boreal forests [in the northern hemisphere] to patchy open woodland or grassland within the next 30-50 years. There is growing evidence that this decline is already underway: higher temperatures combined with clear-cutting and replacement plantations have sparked larger and more frequent forest fires, storms and insect attacks, whilst many trees are succumbing to temperature-

sumption of wood products was about 3400 million cubic meters per year and is expected to reach 4200 million cubic meters by the year 2000. Of the current harvest, 55% is for fuelwood primarily in developing nations and 45% is used for industrial forest products. Of the industrial forest uses, two-thirds is for pulp and one-third is timber. The Food and Agriculture Organization estimates that the world demand for pulp will double by 2010.

According to their own estimates,

hand, holds a very different view over growth in future paper demands:

Consumers are no longer what they used to be...[they] wish to know the origins, content and method of manufacture of the paper they use...Like packaging, paper itself, once synonymous with civilization and culture, could now be seen as an unnecessary and environmentally damaging material...Our industry can no longer afford to take long-term growth for granted. More and more we shall have to fight for our future and create our own growth. In this respect paper itself becomes increasingly a consumer product where total demand has to be stimulated.

Richard Sandbrook, head of the International Institute for Environment and Development (IIED) who was involved in the writing of an important study entitled *Towards a Sustainable Paper Cycle*, stated more recently that, "There is no agreement on the physical limits to paper consumption, therefore no accepted definition of 'over' or 'excessive' packaging and 'wasteful' paper use".

Where Paper Comes From

Currently, in the Southern hemisphere, 32% of the pulp produced still comes from non-wood sources, and the South uses 10-15% more wastepaper than the North for its paper production. Non-wood pulp production is dominated by Asian nations with 73% coming from China—which consumes 19,000,000 tons of paper annually—and 11% coming from India. However, 90%

of the Earth's paper pulp is still made from wood.

Of the 170 million tonnes of paper pulp that are currently produced annually, 640 million cubic meters—roughly

Worldwide paper consumption this century has already increased 4 times faster than the population and is expected to double by 2010. The pulp and paper industry—which is incidentally the worst polluter in the wood products industry according to the World Watch Institute—already consumes about 4 billion trees annually and this is expected to increase dramatically.

13% of the total global wood harvest—of wood are consumed. This is equivalent to the yearly harvest of about 2 million hectares of mature trees. US pulp mills consume 12,430 square miles of forests each year, and produce 31.3% of the world's pulp and 28.5% of the world's paper and paper-board.

An estimated 1.2 million acres of forest are now clear-cut annually to feed 140 chip mills in the Southeastern United States alone. According to a leading US paper industry expert, Maureen Smith:

"Within the context of total (primary and secondary) wood consumption, the US paper industry is the single largest consumer of wood in the country and the largest industrial consumer of wood in the world. Of all the timber harvested from domestic timberlands each year, more ends up in paper than in buildings, furniture, and all other wood products combined."

Forest Loss & Paper Consumption

Why is today's reliance on wood for paper a cause for alarm? According to

pulp and paper expert Danna Smith, "...forests once accounted for more than 40% of the Earth's land surface, today they cover about 27%, representing a total loss of about one third. Most of this loss has occurred since 1950". Currently, the planet continues to lose an area of forests equivalent to the size of Ohio, and each year humans continue to clear forests at an ever increasing rate. An estimated 120 billion tons of carbon were released into the atmosphere between 1850 and 1990 as a result of deforestation, and further estimates indicate that more recent deforestation from 1980 through 1990, has released an average of 1.6 billion tons of carbon.

Worldwide paper consumption this century has already increased 4 times faster than the population and is expected to double by 2010 according to the Food and Agricultural Organization. The pulp and paper industry—which is incidentally the worst polluter in the wood products industry according to the World Watch Institute—already consumes about 4 billion trees annually and this is expected to increase dramatically.

As it stands today, the pulp and paper industry derives its wood from the following sources: managed natural regeneration forests at 37%; tree plantations at 29%; unmanaged natural regeneration forests at 17%; native boreal forests at 15%; native temperate hardwoods at 1%; and native hardwoods from tropical rainforests at 1%. These same figures are used by the pulp and paper industry to show that they are not causing tropical deforestation to the extent that traditional forest users are

for such things as fuel and agriculture, but this theory is cynical because it is often the pulp and paper industry that forces local peoples off their land and into the virgin forests to make way for tropical plantations. What these figures show us quite clearly is that a tremendous amount of land that is being used for pulp and paper (66%) is being moderately or heavily managed by the industry.

Paper Industry Energy Consumption & Carbon Emissions

In addition to consuming so many trees, the pulp and paper industry emits a tremendous amount of CO₂ as they are the third largest energy consumer among US manufacturing industries after chemicals and primary metals. It is therefore both a major source of carbon—not to mention methane—and a major contributor to the degradation of forests that act as carbon sinks.

During 1994, the industry consumed 2700 trillion Btu, or 3.1% of all US energy consumption combined. In response to concerns about how much CO₂ industries produce in the United States, the Climate Wise program was established jointly by the US Department of Energy and the EPA to create initiatives to help the nation reduce its greenhouse gas emissions to 1990 levels by the year 2000. According to estimates made by Climate Wise Partners (member companies from the pulp and paper industry), cutting the amount of energy the US pulp and paper industry consumes (Btu) per pound of product manufactured by 2% per year, would reduce CO₂ emissions from this sector by 25 million metric tons over the next five years.

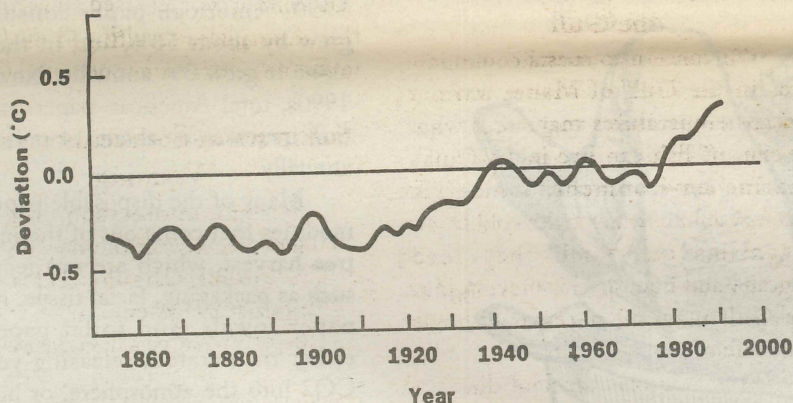
This, by my own calculations, means that if the US pulp and paper industry continues business as usual (using 1994 as the baseline) without doing Climate Wise, it will emit over 1.2 billion metric tons of CO₂ over the next five years. This means that over a five year period, the US pulp and paper industry alone generates the same amount of carbon as one sixth of the total global carbon emissions currently generated by all human activities combined in one year.

Old Growth Forests Sequester More Carbon Than Plantations

In response to concerns over global warming, some people within the pulp and paper industry have pointed to the planting of tree farms and mono-crop tree plantations for future pulp and paper products as the key to creating larger carbon sinks to curb global warming. The argument is that younger trees absorb more carbon than older ones and thus the increased use of virgin-fiber from the felling of older trees, followed by the replanting of saplings, causes a net increase in carbon sequestration.

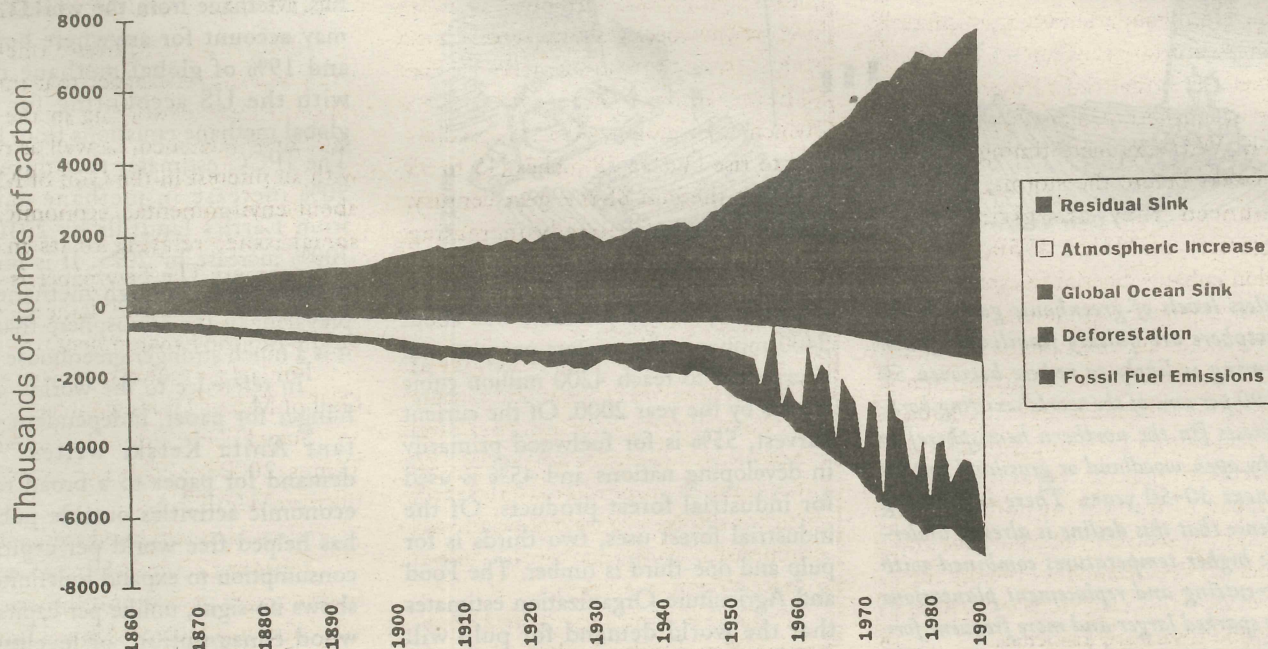
However, many studies, both governmental and non-governmental, have since been done to show that old-growth forests absorb more carbon than new-growth and that these types of industrial tree planting strategies don't prevent global warming, but in fact may help speed up the process. According to a 1995 report called *Keeping it Green: Tropical Forestry Opportunities for Mitigating Climate Change*, completed

Global Temperatures



Source: U.N.E.P Environmental Data Report, 1993-1994

Annual Global Carbon Budget



Source: American Geophysical Union, 1989

by the World Resources Institute and the US Environmental Protection Agency, plantations and tree farms in tropical forests can at best store only 1/4 the carbon as do natural forests. Likewise, in temperate forests, reputable Professor Mark Harmon and his colleagues have suggested that the con-

version of 5 million hectares of old-growth to managed stands in Oregon and Washington may in fact account for up to 1.8 billion tons of carbon released into the atmosphere over the past 100 years.

The IPCC has stated: "The need and demand for raw materials from

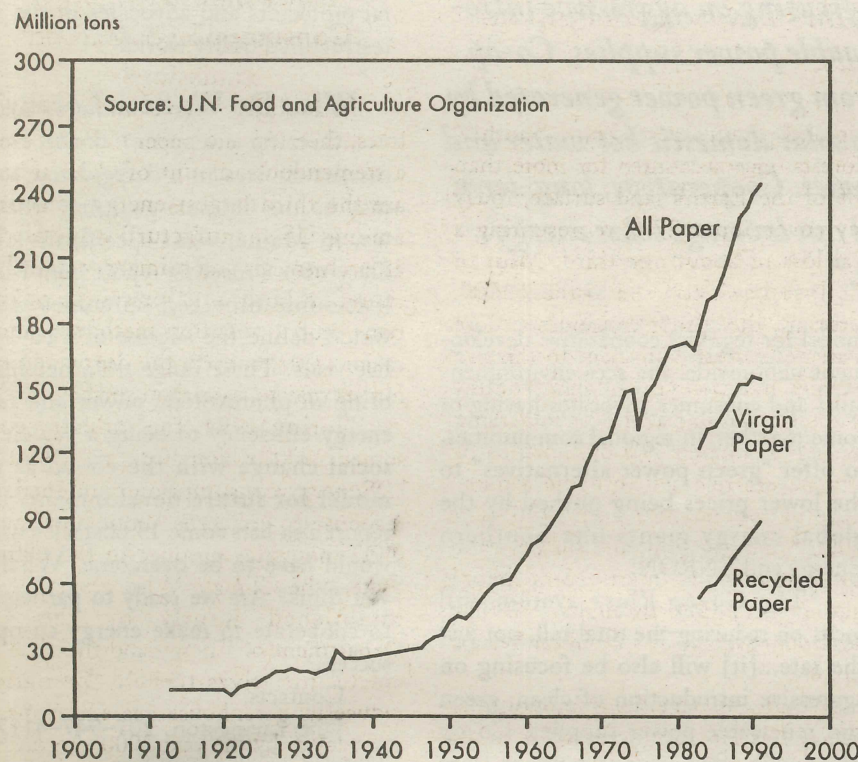
forests has increased globally, especially in the pulp and paper industry. If timber could be utilized more effectively and a larger percentage of timber products recycled, less wood would need to be cut from forests without resulting in a decrease in industrial production. This would leave more standing biomass in the forest over a longer period of time to sequester carbon".

Likewise, others have pointed to the abundance of agricultural wastes that could be used in this country, but instead are burned. Other promising non-wood crops include hemp and kenaf. Hemp and kenaf require much shorter growing seasons—hemp takes 120 days and can grow almost anywhere, while kenaf takes only 150 days. For farmers this is very important

because pulpwood, which can take decades to grow, ties up the soil for years. Meanwhile, hemp produces twice as much pulp per acre than pine, can be grown without pesticides and herbicides, and its leaves can be used as a fertilizer to enrich the soil. Kenaf shares all of these traits and in addition it produces 3 to 5 times as much pulp as pine per acre and can be grown in conjunction with important food crops such as legumes, corn, and sorghum (Earth Island 1997).

Perhaps it is finally time for us humans to think a little more about the future of the Earth's climate and stop wiping our *derrieres* with products made from the last of the world's remaining forests.

World Paper Consumption, 1913-91 and Recycled Paper Consumption, 1983-91



El Nino East?

For the nearly million of us in Maine who lost power in January courtesy of back to back ice storms, it was difficult not to be focused on the weather. There was unanimous agreement that we are too vulnerable to an electrical distribution system that relies on large central power plants and skinny wires strung along erector set towers and match stick poles. There was less agreement about the effect of the storms on the woods and wildlife. One headline stated bluntly "Ice Storm Was Hard on Wildlife." Another screamed "Storm's Devastation Didn't Spell Doom for Wildlife." A third reported that "Ice Storm Clobbered Trees, but May Benefit Wildlife."

Equally equivocal were news stories about the bigger picture. Ironically, the same day the first ice storm hit Maine with full force, a story in the newspapers reported the research chief of the National Oceanic & Atmospheric Administration saying 1997 was the warmest year on record, a strong hint of global warming. Ross Gelbspan, author of *The Heat is On*, told an audience at the Common Ground Country Fair in Maine last September about 120 extreme weather events within two years that suggest global climate change is indeed upon us.

Harold Borns of the University of Maine takes a longer view. He points out that geologic evidence shows Maine has experienced both tropical and polar climates over the eons. Borns believes we are in another interglacial period and headed sooner or later for more snow and ice. Maybe,

but melting glaciers and other near term signs of global warming pushed forward a United Nations resolution in December calling for the equivalent of an 8% cut in fossil fuel emissions in this country. Unless anti-environmental activists block Senate adoption of the resolution, the United States will be scrambling soon for ways to release less or absorb more atmospheric carbon. The Northern Forest may become a critical carbon sink where trees would have greater value on the stump sequestering carbon than cut down for cheap pulp fiber.

For now, the Maine Forest Service is mapping the extent of the January ice storms. Preliminary estimates suggest 2.1 million acres were heavily affected, 2.5 million acres had moderate impacts, and 5.9 million acres were lightly grazed by the icy glaze. Hardwood stands in southern Maine were most affected. The ice missed the industrial forest owner-ships in northern Maine almost completely. With exquisite timing, just a few weeks before the storms, NASA announced they are giving the University of Maine \$750,000 to develop enhanced aerial forestry mapping and monitoring systems.

By the way, the same week the first ice storm hit a delegation from Iceland was scheduled to visit Maine to see about purchasing processed hardwood logs for resale to the European Union. I am not big on conspiracy theories, but you have to wonder if the Icelanders brought the icy weather to bring down all those hardwood trees and branches.

—Jym St. Pierre

Warming Weather Forecasts Trouble

from the Gulf of Maine Times

At a September workshop at the University of New Hampshire (UNH) in Durham, one of a series sponsored by the US Global Change Research Program (USGCRP) and the US Office of Science and Technology Policy (OSTP), researchers and representatives of conservation and business organizations discussed regional concerns about the potential effects of climate change.

Climate Change's Effects on the Gulf

•Of concern to coastal communities in the Gulf of Maine, warmer ocean temperatures may affect what species of fish can live in the Gulf's marine environment. Some fish species could decline as the cold water organisms on which they feed migrate, and new species moving into the Gulf may not necessarily be as marketable.

•Brian Doyle, associate director of the UNH Sea Grant College Program, cautioned that not enough research has been conducted on how global warming might affect fisheries to be able to predict redistribution of species.

•Another effect on Gulf communities is increased erosion. Scientists say warmer ocean temperatures cause the sea to expand and melt glaciers. These factors increase sea level, which, according to OSTP, is predicted to rise by 6 to 38 inches (15 to 95 cm) by the end of the next century. Sea level rise is already increasing shoreline erosion and flooding in New England, damaging property, according to researchers.

•Graham Giese, a geologist at Woods Hole Oceanographic Institute in Massachusetts, said rising sea level annually submerges 65 acres (26 hectares) of upland in that state, which is developing legislation to help minimize economic losses to coastal property owners or buyers.

•The sea level rise is also threatening New England salt marshes and estuaries that provide food and shelter

for fin fish and shellfish. "Marshes and mud flats and estuaries that currently are being used by a great majority of the Gulf of Maine species at some point in their life cycle would obviously be eliminated or vastly modified" by a rise in sea level, said Doyle. He explained, "Without these habitats, it would certainly have an impact on the fisheries of the Gulf of Maine. But again, how one would try to quantify anything like that would be a little bit difficult at this point."

•Another predicted effect of global warming that could affect mariners is more frequent storms at sea caused by increased moisture in the atmosphere resulting from faster evaporation of warmer ocean water.

Information Sources on Global Warming

For more information on global change research, visit these web sites.

- US Global Change Data and Information System
<http://www.gcdis.usgcrp.gov>
- Atlantic Region Climate Exchange
<http://www.ns.ec.gc.ca>
- Institute for the Study of Earth, Oceans and Space
<http://www.necci.sr.unh.edu>

Gulf of Maine Times

The Gulf of Maine Times is a free quarterly newspaper that informs those living and working in the Gulf of Maine watershed, as well as others with an interest in the Gulf of Maine, about environmental, economic, and social issues relating to its marine environment. The newspaper is published by the Gulf of Maine Council on the Marine Environment.

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Visit the Gulf of Maine Council's home page at www.gulfofmaine.org and click on Gulf of Maine Times to read the newspaper on line.

Maine Energy Coop Forming

by Jim Lippke

Steps toward forming a Consumer-Owned Energy Co-op in Maine are underway following two meetings held late last year. Both meetings had over 20 participants, all quite enthusiastic. Benefits of a consumer energy co-op include enabling consumers to buy clean/green electricity at the lowest rate (when retail choice kicks in on March 1, 2000) plus opportunities for reducing electric bills through energy efficiency. A steering committee to guide development will be organized at the end of January; more members for the steering committee are being sought. Lead organizers of the co-op are Jane Livingston, a consultant with the nonprofit Cooperative Development Institute (CDI) and Pam Prodan, Director of NARP's Renewable Energy Assistance Project.

State Co-op Efforts Underway

Already, energy co-ops in New Hampshire, Massachusetts and New York have formed to take advantage of opportunities surrounding electric restructuring. Urban housing cooperatives in New York City, through the 1st Rochdale Group, are gearing up to aggregate the electricity purchases of 50,000 housing units. Models for business management and technical, financial and development support exist. As Lynn Benander of CDI points out, there is a rich history of electric co-ops in America—some one thousand rural electric coops provide electricity to 30 million homes.

Thinking big, and with the promise of the state facilitating "securitization"

financing, the New Hampshire Electric Cooperative (NHEC) has proposed to buy out the transmission and distribution operations along with "stranded costs" of Public Service of New Hampshire (owned by Northeast Utilities) for \$1.4 billion. This proposal

"The Co-op Plus+ system will focus on reducing the total bill, not just the rate. . . [it] will also be focusing on aggressive introduction of clean, green and renewable power supplies. Co-op Plus+ will offer options ranging from green power generated by legitimate and verifiable sources to solar domestic hot water and PV arrays installed on member homes. Cooperative, long-term financing systematically applied can leverage solar energy's success."

would give customers direct ownership and control over their delivery system and the freedom to choose their own electric generation source. Rates lowered by 20% are expected from lower financing costs.

On a less grandiose basis, several NH communities have incorporated energy co-ops with the expectation of offering not only electricity but propane and oil as well. In Vermont, the Washington Electric Cooperative (WEC), in a pilot project, will buy electricity for 200 of its members, stressing reduced energy consumption.

Energy Co-op Network

CDI, in partnership with NHEC, WEC and the 1st Rochdale Group are teaming these newly formed (and about to be formed) energy co-ops with older cooperatives in the Northeast to build what is being called Co-op Plus+. The

Northeast is home to more than 10,000 cooperatives and credit unions serving more than 10 million member owners.

As a result of restructuring of the electric industry, Andrew Ferguson, President of CDI, sees this "a once-in-a-century opportunity" to create a

model for regional cooperative development nationwide. He sees environmentalist and consumer advocates having or come together, in regional communities, to offer "green power alternatives" to the lower prices being pushed by the global energy giants like Southern Energy and ENRON:

"The Co-op Plus+ system will focus on reducing the total bill, not just the rate...[it] will also be focusing on aggressive introduction of clean, green and renewable power supplies. Co-op Plus+ will offer options ranging from green power generated by legitimate and verifiable sources to solar domestic hot water and PV arrays installed on member homes. Cooperative, long-term financing systematically applied can leverage solar energy's success."

"Because Co-op Plus+ is a consumer-owned not for profit cooperative system, it is focused solely on the bene-

fit and value to customers. Trustworthiness, honesty, and consumer education are hallmarks of successful cooperative systems. These values and operating principles, combined with aggregating purchasing power and access to innovative and affordable financing help, ensures that energy co-ops will be the preeminent environmental protectors and advocates in the new restructured utility world."

What Do We Seek Locally?

Getting consumer control over market choices in a deregulated world may be the ultimate goal, but what do we, in Maine, want specifically? The December 8 meeting report from Maine lists some nineteen outcomes which would define the success of a co-op in five years. These range from helping to bring in photovoltaic power and more energy efficiency to being a vehicle for social change with the co-op as role model for future development. The report also lists some 15 obstacles which would have to be overcome. What do you think? Are we ready to participate, to cooperate to make energy co-ops a success?

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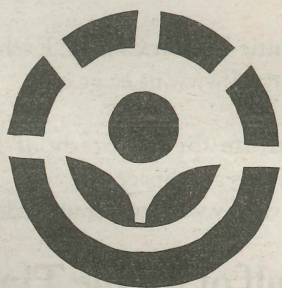
Jim Lippke, Chair, Coalition for Sensible Energy (CSE), 207-326-8081 or jlippke@downeast.net.

CSE has a website at <http://www.downeast.net/nonprof/cse> and an excellent newsletter from which this article was excerpted. Write P.O. Box 366, Bucksport, Maine 04416.

ENERGY QUIZ NO. 1

Question: Can you guess what these symbols mean?

(1)



(2)



Answer:

(1) Food treated with irradiation or by irradiation.

(2) Electric energy sources meeting trademarked "Green-e" Brand Criteria

Editorial Comments: About the irradiation radura emblem: Using waste from the nuclear industry, the food irradiation industry has plans to build hundreds of irradiation facilities to treat virtually everything we eat—meat, poultry, fresh fruits and vegetables. Fruits and vegetables are already approved. Even the new national organic standards proposed by the FDA have no prohibition on the irradiation of organic foods—soon even the label "organic" will become useless. Pending legislation would remove the current FDA requirement that irradiated food be labeled "prominently and conspicuously" with the radura.

The "Green-e" renewable electricity project is supposed to "build California consumers' confidence in retail electricity products containing renewable energy." Be assured that electricity using trademarked brand must obtain at least 50% of their total energy from "eligible renewable resource facilities." The rest can be nuclear, coal, or whatever is in the usual system power mix.

Don't the similarities between these symbols evoke an outpouring of trust toward the industries promoting them? Unfortunately, both symbols are aimed at convincing consumers that what industry is selling is what consumers want.

Vermont Sierra Club

Priorities for Energy Restructuring

Electric Utility & Sustainable Energy Policy Reform

The Vt. Sierra Club's top priority for the 1998 session is ensuring any electric utility reform bill that becomes law contains strong environmental protections. We are calling on the Legislature to adopt, at a minimum, the following provisions:

- strong renewables and environmental portfolio requirements for all utilities in Vt.;
- a well funded research and development fund for emerging renewables;
- strong conservation requirements;
- net metering provisions; and
- a green rating program for the systems benefits wires charges.

The green rating program for the "system benefits wires charges" the Vt. Sierra Club is calling on the Legislature to adopt would be a strong policy of financial incentives to purchase greener, more renewable power, and disincentives to the use of dirtier power. Importantly, DPS experts recently confirmed this proposal fits with both performance based ratemaking and retail choice options.

Beyond electric restructuring, the Club is calling on the Legislature to

substitute an environmental impact tax for the fuels gross receipts tax as the funding mechanism for the low income weatherization program. This revenue and tax base neutral change in the way the weatherization tax is collected would be a small step towards a 'green economy.'

Transportation

The Vt. Sierra Club is opposed to all new highway, belt-line, by-pass, ring road and circumferential highway construction because they only increase traffic, sprawl, and environmental impact while undermining investment in better alternatives. The Club is calling for continued focus on the State's current long range transportation plan. The plan supports reinvestment in existing roads, bridges and rights of way and increased investment in public transportation.

Contacts:

Steve Crowley, Chapter Chair (658-5782)

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REFLECTIONS ON THE SHUT-DOWN OF MAINE YANKEE NUCLEAR PLANT

by Maria Holt

How hard it is for me to write about the permanent shutdown of the Maine Yankee Atomic Power Plant. I am sick of the subject! We in the Citizens' Monitoring Network and a handful of other watchdogs have kept our fingers on the nuclear pulse in Maine since 1979. A few other vigilant people preceded us. They were the ones who alerted us to the dangers. They were the ones who stopped a planned proliferation of nuclear plants in Maine, which was to be a huge nuclear park on the coast to provide the electricity "too cheap to meter."

After almost a quarter century of government-subsidized operation and the release of countless thousands of curies of man-made radioactive elements into our air and water, this sick technological sacred cow in Maine shut down twelve years before its license termination.

Maine Yankee failed to find a buyer that could afford to replace its dangerously worn-out steam generators and still make a profit without getting an extension of its operating license. The Maine group, Cheaper, Safer Power threatened a citizens' referendum to force closure in 2008 when the existing license would expire. The Monitoring Network sent a letter to the potential buyer, PECO of Pennsylvania, vowing to continue to be a watchdog with its gamma radiation monitors ringing the plant as well as to keep track of Maine cancer statistics. We told PECO that official Maine figures show the only county to have a higher than expected cancer incidence rate over the ten year period for which it has records (1983 to 1993) is Lincoln, the home of Maine Yankee. (We are now waiting to see the most recent figures.)

It is no comfort now to be told that we in the anti-nuclear citizen groups have been right all along about nuclear cover-ups. Too often we had calls from anonymous workers about exposures to radiation that they did not dare to complain about for fear of losing their jobs. After a fire at the plant which alarmed everyone, we received a call saying records that showed such an event could have been expected were destroyed. We always reported such anonymous calls to state and plant officials, without any follow-up as far as we could tell.

One can understand that it was no surprise to us to learn federal investigators admitted that engineers at the plant falsified testing records of safety-related equipment and that the company willfully provided inaccurate information to regulators. We know from documented history that most major improvements in nuclear safety have come from informed citizen group pressure . . . not the supposedly responsible federal agencies and their experts.

On snowy November 16 at the Holiday Inn in Portland the survivors of the long road to Maine Yankee's closure held a "Commemoration," not a Celebration. Displays of our work and research lined the walls, we congratulated each other for persistence and breathed sighs of relief that the ultimate accident would now not be able to happen . . . at least in Maine. We pledged

to keep a wary eye on Seabrook and other plants and the decommissioning process in Wiscasset. A TV station interviewed a young man who wasn't born when the plant went on line. He spoke of the hard work and camaraderie of citizen activists and vowed to take up the banner for safe, renewable energy and energy efficiency. Some of us elders secretly found a little comfort in feeling that perhaps we had prevented the worst . . . at least in our own backyard. We drove home in the deepening snow knowing that the work would have to go on.

As I write on this drizzly January morning, the workers at the nuclear plant have been ordered to stop the process of removing the reactor head. There are "some problems." In a conversation with our state nuclear safety inspector at the plant I learned that he shares our concerns that there is and will be an ongoing effort to decommis-

sion as fast and as cheaply as possible, problems or not. Before a private contractor is hired to do the "clean-up," a company doing "site characterization" is working to find out what needs to be cleaned up. Unfortunately, state laboratory equipment used by Maine to check up on the check-up is some of the most outdated in the country.

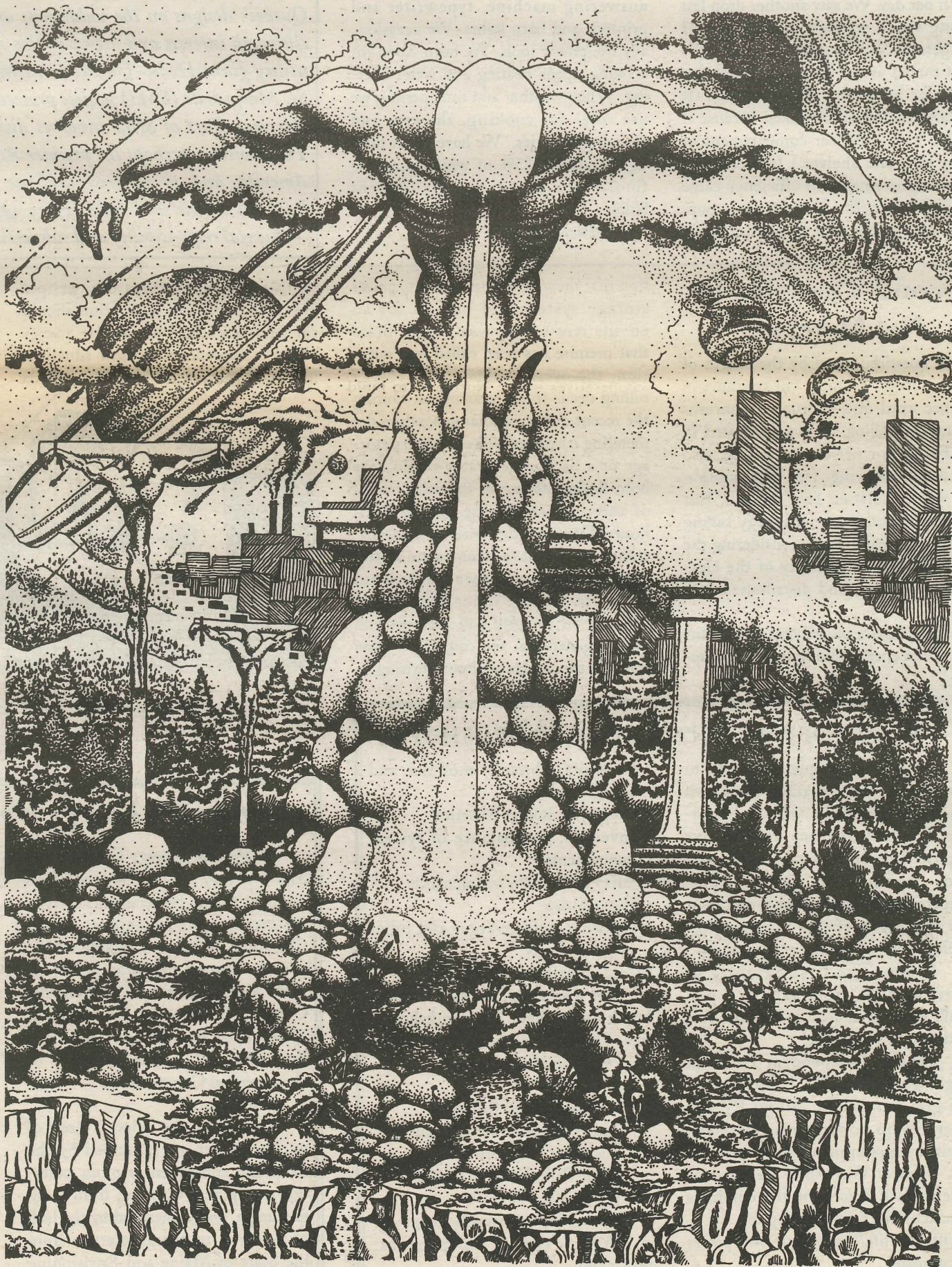
The millions of curies of radioactivity in the spent fuel pool will stay there for a while, some of it for five years at least, isolated from the rest of the plant and continuing to need cooling and controlling in what will quaintly be called "the nuclear island." The federal government has no place for the waste. An appeals court refused to force it to take it and the Department of Energy says it should not be held liable for missing the deadline of Jan. 31, 1998 for taking it over. Maine Yankee is making plans to store it onsite in Wiscasset in above ground casks. No

one knows for how long.

In 1980 the Readers Digest printed an article reporting on a Harvard Business School study showing that we could solve our energy problems through conservation and efficiency. Now that greenhouse gases are beginning to get some attention, the Department of Energy has belatedly taken up the call. ("Wake-Up Call," Newsweek, Dec. 22, 1997).

Now we who have learned and who care have to keep on acting and being strong together in a spirit of love and peace. Stopping the corporate welfare which has unwittingly spoiled much of life's support systems is a priority. Good luck and good cheer to us!

Maria Holt, Director, Citizens' Monitoring Network, is a former Maine Legislator and is currently a member of the board of directors of the Northern Appalachian Restoration Project.



Natural Selection © Phil Wassell

The Minimum Electric Bill

Our electric utility charges \$11.84 for the first one hundred kilowatt hours (100 KWh) consumed in a monthly billing cycle. This is the minimum one pays, even if one uses less than 100 KWh. A couple of months ago, we were surprised to learn that our use had dropped to 88 KWh and we had received the minimum bill. Perhaps we shouldn't have been surprised. Our electric bill "archives" reveal that over the past ten years, our use has steadily dropped from a daily average of over 9 KWh per day.

In thinking about which changes made a difference, we've concluded that the biggest savings occurred when we bought new, more efficient appliances and lights. For example, over eight years ago, when we changed over all of our most commonly used lights to compact fluorescents, our usage dropped at least 1 KWh per day. Then, when we replaced a twenty year old freezer a few years ago, our usage dropped another 2 KWh per day. We saw another drop last spring when we had to replace our refrigerator and bought the most efficient model available locally, which cut our usage by another KWh per day. (It was also the cheapest model because it doesn't have a freezer compartment or fancy bins and shelves.) Interestingly, these improvements in efficiency came with other benefits: gone is the annoyance of buying and changing light

bulbs, as only a couple have burned out so far, and our new refrigerator and freezer are both larger than the old appliances.

In the past six months, we've averaged 3.7 KWh per day, although realistically, we think that over a full twelve month period, our average will be higher than that. It will depend on factors such as whether we are milking a cow, how long we need to run our sump pump during the spring melt, whether we use seedling warmers and how much we are using the computer. People who live off the grid could use less electricity than we do because they would often use more efficient appliances than we currently do.

Our household of two persons has a 17.4 cubic foot refrigerator, 21.7 cubic foot freezer, front-loading washer, water pump, stereo/radio, vacuum cleaner, toaster, blender, waffle iron, electric skillet, hot pot, cake mixer, lights, fans, plus a home office (computer, fax, answering machine, typewriter and printer), and barn lights. We occasionally use power tools. We burn wood for cooking, space heating and water heating. When weather and time permit, we use solar for cooking, showers and charging batteries. We have about forty light fixtures, 75% of which now use fluorescent or compact fluorescent bulbs.

—Pamela Prodan



Women from the Innu Village of Mani Utenam in Eastern Quebec Dress a Porcupine Which their Men Have Sent from Hunting Camp by the last Train from Labrador. Photo © Alexis Lathem.

In the next issue of The Northern Forest Forum, Alexis Lathem, coordinator of Friends of Nitassinan, explores the impact of Hydro-Quebec's designs on the wilderness and native culture of eastern Quebec. Although interest and activism this side of the border have subsided since utility giant Hydro-Quebec cancelled its Great Whale Project, the huge St. Marguerite (SM3) project proceeds toward completion by December of this year. Part of SM3 involves diversion of Moisie River headwaters. The Moisie is perhaps the premier Atlantic salmon river of eastern North America, and an historic backbone of traditional Innu culture. Alexis Lathem's article will trace Hydro-Quebec's persistence in evading environmental responsibility and subverting Innu cultural restoration.

Second Thoughts on Net Metering

A question raised by the length of recent outages—which will continue in Quebec until mid-February—concerns net energy billing. I have advocated in the Forum for net energy billing, also called net metering, (see mid-autumn and winter solstice 1997 issues). But perhaps the value of net energy billing needs to be reexamined, considering the demonstrated unreliability of the electric transmission and distribution system.

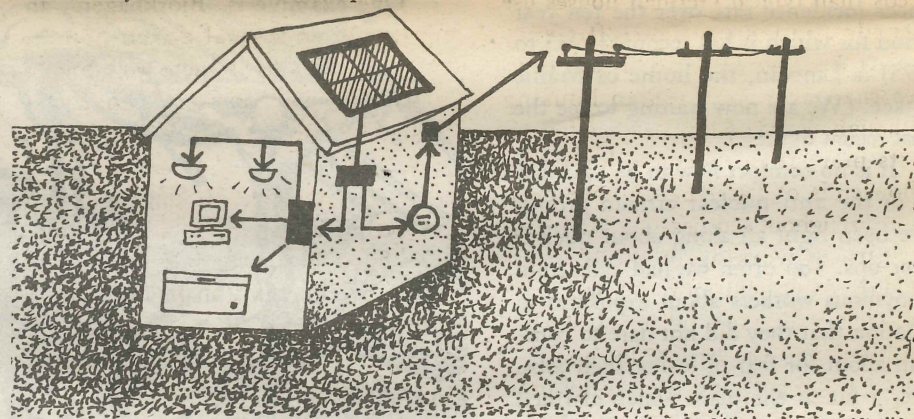
The premise underlying the advantage of net energy billing is the assumption

that the grid can serve as the power storage system and backup for an on-site renewable power supply. Since that premise has been called into question, the overall value of net energy billing needs to be reexamined. During the recent outage, a solar generation net metering customer without battery storage or a backup generator would have been limited to use of the solar output of their panels during the daylight hours. During other periods, that customer would have been in no better position than any other blacked-out customer. On the other hand, those who are off the grid had batteries and backup generation and could have gone through the outage without noticing it.

In this post-ice-storm era, people installing renewable generation should consider carefully whether net energy billing is appropriate to their situation. If reliability and uninterrupted power is

needed, they would be better off to invest in battery storage and backup generation and stay off (or go off) the grid.

—Pamela Prodan



Residential grid-connected Solar PV system

by Pamela Prodan

FREE INDEPENDENT POWER WORKSHOPS

For whom: People motivated to learn more about making their own electricity. Beginners will see operating off-grid systems and receive explanations on how the various system component parts work. Experienced independent power people will get a refresher course while seeing new technology and products.

When: The first Saturday of most months, from 9am to 3 pm. Call, write or e-mail to confirm date and reserve your place.

Where: Independent Power & Light, Hyde Park, VT. Located in our off-grid (no electric utility) PV and micro-hydro powered neighborhood. Visits by appointment only, please.

Topics: Workshop participant interest will determine the emphasis placed on the following topics:

- Off-grid life/Being your own power company

- PV (solar electric) modules and charge controls
- Deep cycle storage batteries
- Inverters, and balance of system components
- Safety and system maintenance
- Micro-hydro
- Lighting, refrigeration and other electrical loads
- Cold climate considerations

For workshop: Bring your own lunch and coffee. The workshop is free. Please do not bring dogs, drugs or alcohol, and bad attitudes.

Contact: David Palumbo
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Hyde Park, Vermont 05655
phone 802-888-7194
e-mail: indeppower@aol.com

Web site: independent-power.com

Hands-On Energy Workshops To Be Offered

"A Peoples' Energy Quilt for the 21st Century", a two and one-half day long energy conference to make a difference will be held at Camp Chewonki, Wiscasset, Maine, at the vernal equinox, on March 20-22, 1998. Cosponsored by The Katahdin Center, Chewonki Foundation, Maine Solar Energy Association and the Maine Association of Conservation Commissions.

Themes are:

Welcoming the reduced threat of nuclear power, yet Troubled by the mounting consequences of air pollution and global warming from fossil fuel usage, and Concerned by the lack of guidance in energy matters from the State of Maine and Envisioning

the not-too-distant deregulation of energy.

Emphasis will be on energy conservation, strategies for wise use of renewable energy and sustainable communities using technology already available and affordable. Workshops will include "The \$13 Electric Bill!" and "Build a Solar Battery Charger." Actual installations will be seen at Camp Chewonki and at area solar homes. Keynote speakers will include John Perlin, author of The Golden Thread. The basic cost for facilities, food (7 meals plus snacks) and van transportation is \$80. For registration materials call 207-737-2488 or write Katahdin Center, 20 Peary Drive, Brunswick, ME 04011.

Sustainable Settlements in Northern Europe

by David Foley

Throughout Northern Europe, men and women with backgrounds in architecture, planning, engineering, construction, government and education are hard at work making their surroundings more efficient, healthy, supportive and beautiful. From their work, a pattern is emerging pointing toward sustainable human settlements.

In 1996, thanks to an Environmental Fellowship from the German Marshall Fund of the United States, I was able to travel to Germany, the Netherlands, Denmark, Norway and Sweden, to visit and learn from some of the people transforming our built habitat into a place we—and our children—truly can call “home.”

Using Less Energy and More Natural Materials

In Northern Europe, work on sustainable settlements divides into three broad categories: material and energy efficiency, “natural” forms and materials, and social/political questions.

There is widespread interest in buildings which conserve resources, especially energy. Some of the first superinsulated, passive solar houses were developed at the Technical University of Lyngby, Denmark in the 1970s. Since then, progress has been steady and impressive. For example, in Freiburg, Germany, designer Wolfgang Feisch and colleagues have developed the “Passivhaus”, a low-cost row house. A Passivhaus uses less energy for all its needs than typical German houses use just for appliances. This efficiency doesn’t cost more—a Passivhaus costs less than average German housing (although, at over \$120 a square foot, it costs more than most US housing). Thousands of Passivhaus’s have been built throughout southeastern Germany.

Others working in the “Green” building movement move beyond optimal energy engineering to ask if efficient buildings can be healthy, nourishing environments and use locally produced, “natural” materials.

For example, the Rudolph Steiner Seminarier (Teachers College) in Jarna, Sweden is a building compound constructed over the past 25 years. Energy performance is excellent, but the main concern is with form, color, indoor air quality, natural daylight, acoustics, and connection to nature. The buildings use glass, concrete and steel, but also wood, stone, clay, fiber, beeswax, linseed oil and earth pigments.

Sewage is treated in three holding ponds in a wooded park. Wastewater moves between the ponds through “flowforms”: sculptural forms which cause the water to swirl gently, adding oxygen and encouraging breakdown of sewage by microbes. Visitors strolling in the park seldom are aware that they’re visiting a sewage treatment plant!

Living Communities

A third group of “Green” building activists are less concerned with the techniques of ecological building than with how families, work groups, neighborhoods and towns organize and

relate. For example, over twenty-five years ago dual-income families in Denmark were searching for alternatives to nuclear-family, detached houses. A new design called “Bofaellesskaber,” literally “living communities” inspired the construction of over 200 communities in Denmark alone. These communities employ participatory design and construction processes, neighborhood design fostering a sense of community, extensive shared facilities, including a common house where meals are shared, and complete resident management. This pattern is spreading throughout Europe and North America—here in the United States, such communities are called “Cohousing.”

Cohousing has tangible environmental benefits, since homes tend to be clustered, saving habitat and reducing transport costs; common facilities lead to smaller houses, saving energy; and in most cases, automobiles are kept to the periphery, encouraging alternate transportation.

Ecological Living

Recently, pioneering projects in Europe have begun to integrate efficiency, form, materials, and social organization. For me, the most exciting of these were “ecovillages.”

Ecovillages demonstrate tangible efforts to shrink the gap between environmental consciousness and the realities of daily life. They move beyond a “technical fix” approach to sustainability, providing a setting in which it is easier to refocus the priorities of one’s life.

One example is “Bjorkhagen”, an ecovillage of several dozen homes, located about a five minute walk from a rail stop in suburban Stockholm. It was created by Swedes with an interest in “ecological living.” The houses are modestly-sized duplexes. Parking is kept to the periphery; interior roads are normally for foot and bicycle travel. The house exteriors are finished in a non-toxic wood preservative. Rainwater is collected and stored for flushing toilets, and greywater is processed in a constructed wetland. Many of the homes have solar water heaters, and all feature highly energy-efficient construction.

Residents give several guided tours per month, sharing what they’ve learned and urging visitors to do likewise. As one resident told me, “We have a rich environment, so we have less desire for money. We have acquired knowledge, so we feel less need to acquire things.”

Most of these efforts are being undertaken by ordinary people, below the radar screens of government and corporations. At the projects I visited, I felt that people were saying, “We’ll go on ahead—catch up with us when you can.” I returned from my Fellowship inspired to catch up as soon as possible. We don’t have a lot of time to waste.

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“Hoarfrost” Knicker Island, Maine. Reprinted from *Winter: Photographs from Mid Coast Maine*, by Robert Mitchell of Boothbay.

Electric Deregulation a Development Threat for Northern Forest Lakes

by Pamela Prodan

As required by Maine’s new electric utility deregulation law, Central Maine Power Company (CMP) recently negotiated the sale of all its hydro and oil-fired generating plants. However, in addition to its dams, CMP also owns the water rights to the lakes behind the dams; land that is underwater in the impoundment reservoirs; shoreline frontage; and various other undeveloped parcels.

CMP claims all these are generation-related assets, sweeping in every piece of land bought at any time in relation to any generation project or plan. But CMP and the prospective buyer, the FPL group of Florida, have not agreed to a price and FPL claims it does not need to own the water rights or the land.

Now, through L.D. 1935, CMP is asking the Legislature for carte blanche approval to sell all of this land and the water rights free and clear of any previously passed laws. Union Water Power Company, an unregulated subsidiary of CMP that manages and sells the utility’s land holdings, has told developers it will have a lot of land for sale as soon as the Legislature gives them the go-ahead. Under CMP’s plan, much of the profits from the sales will go directly to the shareholders. CMP threatens that if L.D. 1935 doesn’t pass, the FPL deal will fall through.

Some of Maine’s largest and best-known lakes are involved, including Aziscohos, Mooselookmeguntic, Rangely, Richardson, Flagstaff, Umbagog and Moosehead. Although CMP’s piecemeal sale of its land holdings around these lakes has been a longtime concern of some, the issues raised by this one-time “fire sale” were never anticipated during the legislative

debate over deregulation.

The issues around water rights are complex and confusing, to say the least. As the impacts of the sale become apparent, some legislators are re-examining the wisdom of giving CMP the authority to sell off all these assets to the highest bidder. Some of the land was taken by eminent domain many years ago, to be used for the public good.

The issues have been slow to surface, in part because CMP is currently in negotiations with numerous conservation groups over dam licensings, conservation easements and land sales. CMP appears to have bought the silence of these groups. One would normally expect them to be vocal over the impending sale of thousands of acres of undeveloped Northern Forest land and lake frontage, but they are noticeably absent from Legislative Committee meetings on the issue.

Ed. Note: For a look at how forest protection around the Connecticut River dams presently up for re-licensing was addressed by Vermont and New Hampshire in a recent agreement with New England Power Company, please refer to Northern Forest Forums v 5. #5 p.28 & v.6 # 1 p. 23. (The generating and reservoir dams on the Connecticut are being purchased by west coast utility giant Pacific Gas & Electric.) A negotiation process similar to the one outlined by Pamela Prodan above resulted in an easement/management agreement on over 11,000 acres of forestland to be protected from development, as well as establishment of augmented river flows and a fund to remove dams on the Ammonoosuc River. In a separate matter, towns up and down the river valley are suffering the impact of debilitated property tax assessment on generating dams which has resulted from the NEPCO divestiture.

Timber Industry After Compact: "Are We Overdriving Our Headlights?"

by William Butler

The defeat of the governor's and industry's 26-page "Compact" has immediate response from the losers, re-opening and amplifying the question raised by Ban Clearcutting. In the heated debate a memorable measure of area was invented for clearcuts. This was the area of a football field used as a simile by the director of the Maine Forest Service, on the industry side. The playing surface area is 1.1 acre. Thus we may use this quantity, the gadzik, in defining clearcuts, rather than productive forest.

At this listening post, we hear paper industry and landowners publicly discussing how they will respond to November's rejection. At a business breakfast at a Bangor college, John Cashwell, manager of the Pingree million acres (and recent forest commissioner), and Bill Vail, leader of the industry's two attempts at the ballot, gave us a view of their plans—admitting they lost because the public doesn't believe their story.

Even better, they are discarding their and NRCM's creature. Blaming the Governor for bringing the Compact as a competing measure to block the Green anti-clearcutting referendum, Vail said that "more is on the table than clearcutting," that, on policy, "no one knows where we want to go," and that "we have lost the trust and confidence of the public." He followed with a statement that, surprisingly, echoes what I uncovered about the USFS Maine forest inventory—"... the decennial survey is not understandable and leaves hanging the question of sustainability." (See "Deconstructing the USFS Maine Forest Inventory", The Northern Forest Forum, Autumn Equinox 1997.)

John Cashwell also executing Vail's change of pace, or, perhaps of heart, stated that "we must have a conversation about forest policy" and that "the legislature is the place for it", admitting he hated the referendum process. Vail acknowledged "there was a terrible rift within the forest industry; the 12 bills to be considered by the January legislature are without industrial support; there is lack of information on the state of the forest." Even discounting this conversion as pragmatic PR, we may note that they are singing our questions—once inadmissible. Speaking of questions on the inventory, Vail put it this way; "Are we overdriving our headlights?"

Cashwell announced the development of a Forest Information Center and asked public funding of an annual "State of the State" report. From Vail, a revealing philosophy; "Trees are a private asset, but it is OK to regulate fish and wildlife, air and water protection."

Two weeks following the breakfast meeting, we resume at an APA (American Pulpwood Ass'n.) forest forum in Bangor, the topic "Forest Product Industry 'Allies'—What will it take to Unite?" (their quote around "allies.") In order of appearance, speakers were: Georgia-Pacific vp Lee Bingham who had little new to add, other than a witless remark that "Maine people have champagne tastes on a beer income"—accurate as to woodworkers' wages, stumpage paid for non-industrial

wood, and tax support by industry lands. He did admit "the fiber supply is in limbo," this from the first corporation also to admit that a recent shutdown of its particle-board plant was caused by a shortage of aspen. Also, he introduced from the floor a new president of paper's trade group, the Maine Pulp & Paper Assn. (formerly the P110, as it was known). This is Jeff Toorish, who for the past five years covered politics for an Auburn TV station.

Next was Judith Berg, part-time director of SWOAM, the small woodland owners. In the November vote on the compact, SWOAM was not a supporter, but had been the year before (by a questionable decision of their board which alienated some members). Berg unloaded on the mostly-industry group; "the only common denominator is involvement in forest management, then divergence." She characterized her group as tree-farmers producing wood commercially, liquidators, or preservationists, saying, "We are not part of industry." She mentions a fourth cate-

of thought runs to "why does industry cower?", threats to loggers and landowners; e.g., "Take your logs to Sandy Neilly and see what you get for them; you eat scraps from their table," then a rambling conspiracy theory incorporating "no more regs," "voters are also afraid of big government", closing with a spirited "Free yourself from Maine Audubon." (For those from away, Sandy Neilly was the maximum-decibel, least-content Compact supporter, from Maine Audubon.)

If the above paragraph reads like a caricature of Adams's talk, I'll plead that a tape of it would sound worse. Lest you or I dismiss her as crazy, remember that this self-styled "just-a-housewife" (with a tax-lawyer husband) conned Maine people, through a petition and referendum, into repealing the uniform property tax, one of the more equitable revenue structures we have seen. Meant to provide that high-value towns would contribute to school support in poorer towns, which the UPT had done, Mary objected and repealed it. SURPRISE!!!

warden service, announcing that there is yet "no resolution of forest policy in Maine." He followed with "industry does not know where it wants to go, but its critics do." Addressing the point of the meeting, he said, "Unity is a big tent; we have to represent both industry and the public and get our act together."

Vail thinks "nobody is more confused than the legislature," a bit puzzling from a PR guy. He may have meant, as he said next, "We need an accurate inventory and information." (Amen.)

As to forest policy, he adds, "The future is not entirely in our hands; private forests and their future may be decided by the public." Responding to a question, he said that, "liquidation harvesting is driven by changing forest practice regulations," quite a spin.

We can think about the intentions of these players, and note former playmates not invited into the big tent, NRCM and ME Audubon. They could bob up again, trading away policy reform for a Potemkin forest along the Allagash waterway. It's an interesting problem to fit in Mary Adams and the other property-rights extremists, but if industry thinks it can win in its old role, they are natural allies. Vail is telling them that they can't "win" the old way. It looked like fifty G-P brass at this last meeting, and few from the other big owners. Don't look for a Green revelation striking any of them; but they will offer to concede as little as will persuade the new policy makers.

So, we are faced with the legislature as champions of the forest. Should we laugh, or cry? Neither; if we can keep them from hiding policy determination in another study group of the usual thieves and expert fools, we will have a jury of the least-expert, least-biased, the best chance of getting a public forest policy. Excepting thee and me, who else could do it?

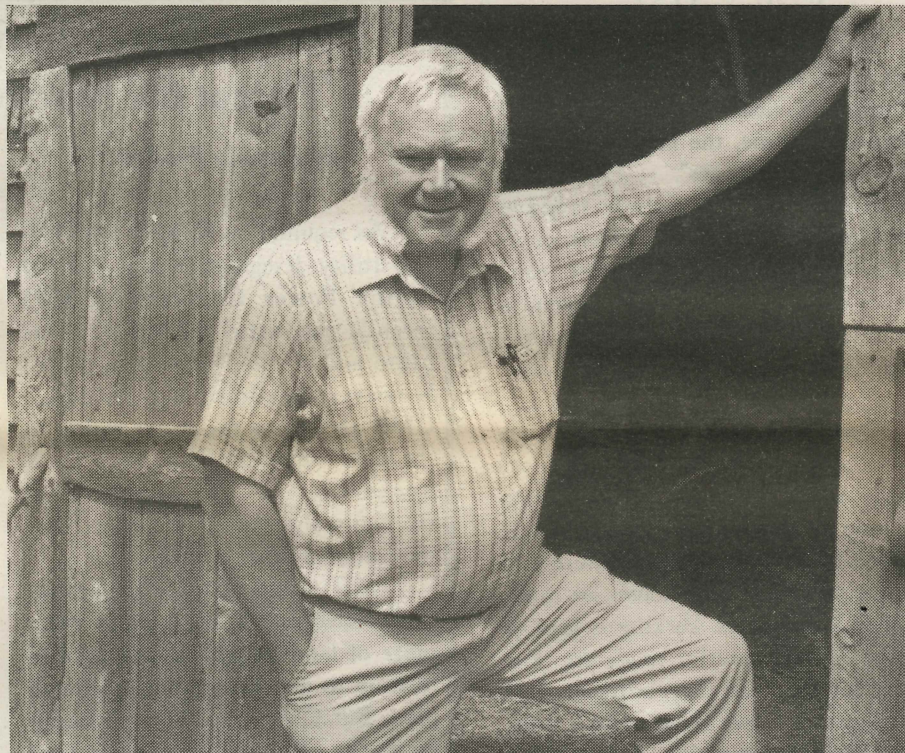
I believe the referenda mistakenly argued technical details of forestry, such as the slippery definitions of "clearcut" meant to mislead the voter. The first policy questions are

1. What is the package of benefits that could be derived from a forest resource?
2. How are they responsibly to be distributed among Maine people?
3. At what frequency and amplitude are these benefits to be sustained?

Point 1 is the whole suite of economic, aesthetic (my reason for working in the woods was that it was a lovely place), and cultural reasons—employment in mills and woods, tax support of the community (sadly lacking), return to small growers, air, water, wildlife, recreation not in an artificial setting.

The second point is a question not within the competence of foresters or landowners; my last St. Regis forester, Dave Warren, told my crew and me that we would produce pulpwood at an unlivable price or St. Regis would replace us with Canadians, and they did. I heard Don Tardie, of Fraser Paper, say that Canada views Maine as a "third-world country"; that we are.

Log export and imported labor have made rural Maine as poor as it is; policy could stop both. Pulpwood stumpage to small landowners is held



Bill Butler has spent over half a century working in Maine's woods.

gory of landowner, those who perform low-impact management, which is "a coming word."

According to Berg, landowners object to top-down decisions from industry, the 1989 forest practice law was a reaction to the practices of large landowners, not small. She sees the compact as imposed by the forest industry, as is the SFI, the "sustainable forest initiative to improve the industry image". Berg told of the conflict between two of these top-downs, one in the SFI that short wood be utilized, the other that Mead will take only 12-foot lengths. She closed with the advice that small and large landowners can unite if "the small is persuaded that his objective is the forest-industry's objective."

Now comes Mary Adams, this time co-chair of "Common Sense for Maine Forests", a Betty-Boop voice of the property-right absolutists, who can claim sizable credit for defeating the industry compact. Lecturing the corporate owners, her analysis is that the ecosystem approach is totally opposed to their economic system; "liquidation harvesting is the linchpin" with which to "beat you into submission." This line

— a year later, the paper industry argued, and won, that much of their holdings also were exempt. If Mary is crazy, it's like a fox—a rabid fox.

Cheryl Russell is the director of Professional Logging Contractors of Maine, not woodsmen, but contractors. You might expect that the organization of contractors, created by the APA, like the SFI, and dominated by industry, would be most respectful. Not here—referring to the mills as "consumers," Russell said the contest was of "consumers and policy makers vs. loggers," with the additional costs of less-destructive logging passed on to the contractor. (I enjoy her tying industry and policy makers—read Maine government.) She complains of no raises for loggers in the past ten years, leaving them to survive by spending their equity, pushing truck weight limits to the maximum, and warns that all these factors may produce quantities of cheap wood, but that quality is dear. She quoted Ernest Carle, a Georgia-Pacific manager, that "good public image is expensive."

Next appears industry's main man, Bill Vail, retired head of the state game

down by fraudulent reporting between bigger landowners and the Maine Forest Service on timber sales. In turn, this scheme misrepresents the taxable land value under Tree Growth, shifting 3/4 of forest taxes to the others in the community. We mistake reality in believing MFS serves anyone but very large landowners, corporations whose only loyalty is to their shareholders, as "Chainsaw Al" Dunlap reminds us. And, of course, foresters are disqualified by their code of ethics which states that their "professional" work always must conform with the landowner's objectives.

For the third point, we need a definition of sustainable, and, before that, a forest balance sheet showing growing stock, growth, and cutting levels, Vail's "overdriving the headlights" question. It is most distressing that the USFS Forest Inventory and Analysis deliberately, by study design, avoids collecting data on accretion, mortality, or cutting. This is not the continuing forest inventory that it might have been, or that you thought it was. Maybe you'll see the spruce forest yielding two cords per acre per year, as it once did, but first there is a long wait to get the stocking which yields that quantity. Good luck!! As both Stephen Manley and Bob Seymour told us, our best tree, red spruce, does poorly in the plantation environment. And



where are the next quality white pine?

Rounding up the usual suspects for a study group is unlikely to improve on the status quo—those corporate environmentalists, Maine Audubon and NRCM joined industry in a do-nothing cover with "voluntary" accountability,

and were flatly rejected. Nor should we repeat the folly embodied in entrusting marine fishery management to the boat owners. In recent and distant past, to turn matters involving the paper industry to the Legislature was futile; can we expect any better now? Well, they have

seen that the old way lost public support, so let us recognize them as the least-biased jury to decide, for the first time, a forest policy for Maine. Considering the alternatives, they are our blue-ribbon commission.

THE IMPORTANCE OF YELLOWSTONE'S WOLVES TO THE NORTH WOODS

by Kristin DeBoer

Wolf Restoration Revives Ecosystems

Jan. 12, 1998 marked the two-year anniversary of wolves being brought back to Yellowstone National Park and Central Idaho. Sixty-six gray wolves have been reintroduced, and their population has grown to over 165 wolves.

The success of Yellowstone has also bolstered a wave of wolf recovery efforts in other parts of the country. Mexican wolves are on the verge of being reintroduced into Arizona and New Mexico; the eastern timber wolf is making a strong comeback in Minnesota, Michigan, and Wisconsin; and red wolves continue to carve out their habitat in the Southeast.

Here, in the northeastern United States, wolf advocates are organizing and educating at an accelerated pace. Since the Yellowstone reintroductions, there have been two major wolf conferences in New Hampshire and New York. A wolf recovery network was formed by 18 local, regional, and national groups. Habitat studies have shown there is plenty of good wolf habitat, especially in Maine, New Hampshire, and New York. Public opinion polls indicate the vast majority of New Englanders favor wolf recovery. Within the year, wolf advocates hope to generate enough support to get a regional wolf recovery study going for the Northern Forest region.

Yellowstone Legal Technicalities Snag Wolf Recovery

On Dec. 13, 1997 the U.S. District Court of Wyoming ruled that the Yellowstone wolf reintroduction was illegal. The judge ordered that the US Fish and Wildlife Service (USFWS) remove all the reintroduced wolves from their new home. Fortunately, he stayed

his ruling pending resolution of the many appeals.

The lawsuits were originally brought by two parties: National Audubon, Predator Project, and Sinapu and another by the Farm Bureau. The judge combined the two cases, against their wishes, because he determined both cases used the same legal technicality as the basis of their arguments.

National Audubon et al wanted to make sure that their presence did not degrade protection for existing native wolves in Montana and Idaho. The reintroduced wolves were designated "experimental, non-essential" by the USFWS to give ranchers more flexibility in defending their livestock. Since it is impossible to know when a wolf is

native or experimental just by looking at them, the USFWS designated a boundary within which all wolves were considered experimental. If a native wolf crossed the line from Montana into Yellowstone, they would be considered experimental, and lose some federal protection. For National Audubon et al., the easiest way to make the Yellowstone reintroduction legal is to give all the wolves, whether native or reintroduced, full ESA protection.

The Farm Bureau's lawsuit was very different. Yet, they used a similar argument to National Audubon et al., citing the ESA's prohibition against reintroducing experimental, non-essential wolves into an area with existing native wolves. However, they just wanted the

reintroduced ones out, or better, dead.

There is a possibility that the parties involved in the National Audubon et al. suit could compromise with the ranchers and lessen protection for the reintroduced wolves. However, it is very unlikely that the American public will let the Yellowstone wolves be removed or killed. Defenders of Wildlife has already pledged to appeal this decision all the way to the Supreme Court, and are confident the ruling will be overturned. People from across the country have rallied to the cause, by contacting Secretary of the Interior Bruce Babbitt to demand his help in protecting the wolves. Just as a public outcry put an end to legalized aerial hunting of wolves in Alaska, the public's wishes can be honored here too, despite technicalities.

THE ECOLOGICAL BENEFITS OF YELLOWSTONE WOLVES

"Wolves are causing an explosion in species diversity."

-Dr. Robert Crabtree, Yellowstone Ecosystem Studies

Since wolves were reintroduced into Yellowstone National Park two years ago, the ecosystem has responded dramatically, and by all accounts positively. Biodiversity in the North Woods may also receive a boost from the return of eastern timber wolves.

- Coyote populations are down by 50% due to the wolves' presence. Wolves attack and kill coyotes, and cause them to shift, or even give up, their territories. However, the remaining coyotes benefit from wolves by scavenging on their leftovers.
- Elk have become more vigilant and wary creatures as a result of wolf predation. They spend less time eating and more time watching for wolves from the mountain sides. Wolves tend to kill young and old females, but will hunt adult bulls and cows when they are worn down by winter. Only 2-3 elk are killed out of every 100 that they chase down.
- Ravens and eagles are suspected to follow wolves around, waiting for a fresh kill to scavenge from. In the last two years, the number of eagles and ravens found around wolf kills has doubled.
- Pine marten and fox benefit indirectly from wolves. Since wolves have reduced the coyote population, there are more rodents, a virtual feast for smaller predators.
- Grizzly bears are getting a boost too. Because grizzlies also scavenge on leftover elk, their nutritional levels are higher. As a result, more bear cubs may be born in the seasons to come.

—Based on the article, "In 2 Years, Wolves Reshaped Yellowstone" in the New York Times, 12/30/97

Restore Healthy Wild Wolves From Maine to Washington

In the real world, most people know that wolves are never "non-essential", and should not be considered "experimental". The wolves themselves don't differentiate between native and reintroduced wolves. In fact, members of the "two classes" have already mated and formed packs. Most scientific studies show that wolves and other predators are essential to a healthy ecosystem. Wolves have been the symbol of wilderness for so long, that this animal has the ability to not only inspire the restoration of its own species, but the protection of the forests and deserts wherever they live.

Let's celebrate the great success of the Yellowstone wolf reintroduction effort. Then, let's redouble our efforts for wolf recovery across the country. Most of all, we need to keep our eye on the prize: restoring healthy populations of wolves, wherever possible, to the wilds of Maine to Washington, from the Canadian to the Mexican border.

1995 US Forest Service Inventory of the Maine Woods: Does it Show Problems?

by Mitch Lansky

Author's Note: After two years of contentious referenda in Maine on forest policy, the ball is now back in the Legislature's court. Unfortunately, the two-year debate was done in sound bites. The Legislature still does not know what has happened to the forest.

The US Forest Service published its long-awaited survey of the Maine woods over a year ago, but no comprehensive analyses of the tables of numbers have been published. Instead, we have gotten more sound bites, such as the one by William Vail, Director of the Maine Forest Products Council, that, "No matter how you slice it: our forests are healthy and flourishing." The following are excerpts from a draft of a longer analysis that I have done, (available from Mitch Lansky, HC 60, Box 86, Wypitlock, ME 04497 for \$5.)

1995 USFS Inventory of the Maine Woods Reveals Problems

1. Decline in red spruce volume. Red spruce is the most important species for both lumber and pulpwood. The volume cut of red spruce was three times the volume of growth. Red spruce declined by 28% in volume between 1982 and 1995. More seriously, future supply is in jeopardy because of a decline in trees in smaller diameter classes.

2. Decline in spruce-fir forest type. The spruce-fir type declined by more than 1.5 million acres between 1982 and 1995, but the northern hardwood and birch-aspen types increased in acreage. This has long-term implications in tim-

ber supply and more immediate implications for local timberlands taxation. Mixedwood and hardwood timberlands have lower assessed values under the tree-growth tax. Timber-type shifts lead to tax shifts.

3. Increase in volume of low-quality red maple and beech. Hardwood pulpwood and biomass give poor returns to landowners and loggers.

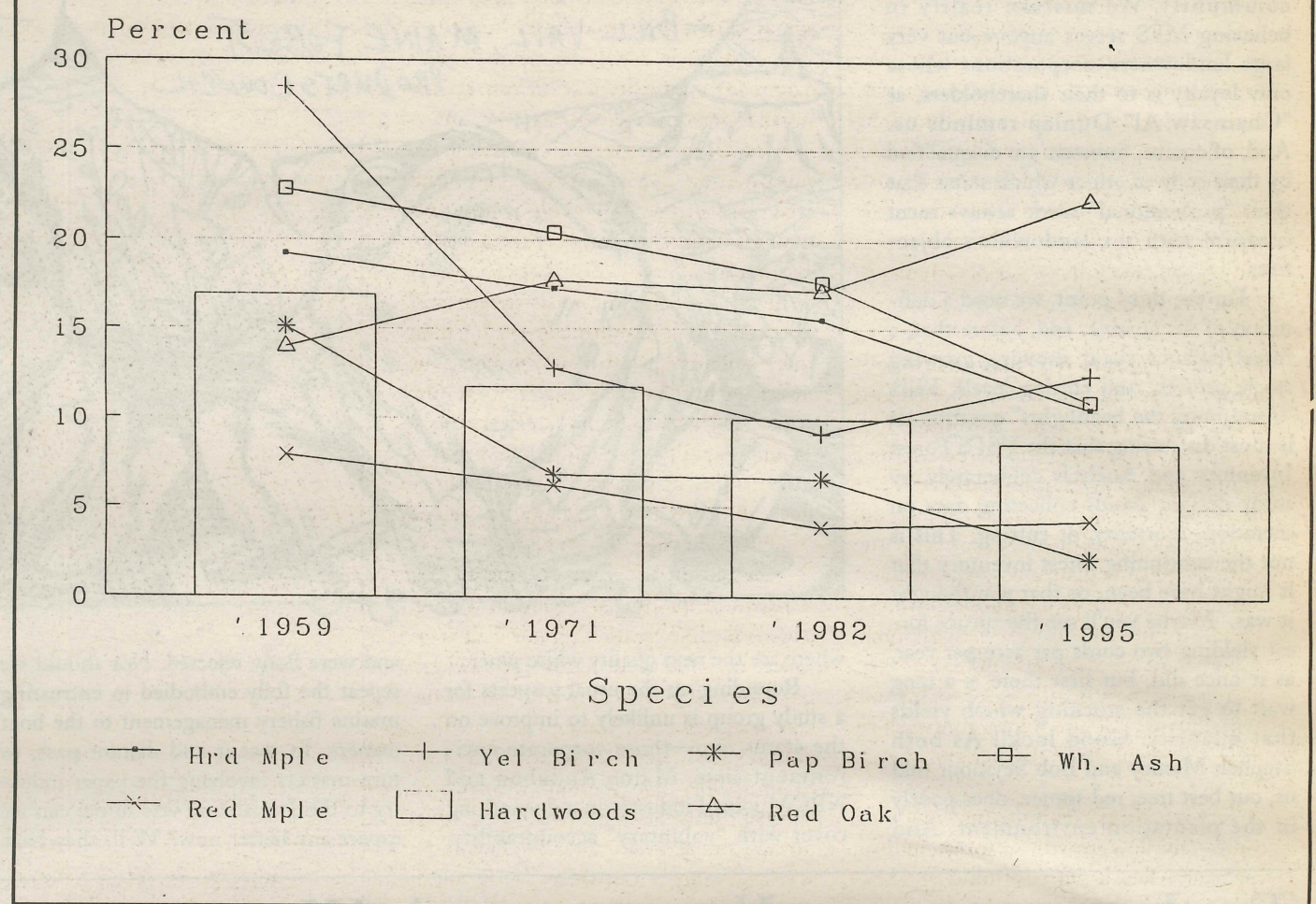
4. Decline in hardwood quality. Since 1959 there has been a steady decline in the percent of hardwood sawlogs suitable for grade 1 sawlogs and veneer. This indicates highgrading, and means the resource is dominated by low value wood.

5. Increase in acreage of seedlings and saplings. In 1995 there were 1.2 million more acres of seedlings and saplings than in 1982, bringing the total up to

4.2 million acres—25% of all timberlands. This is evidence of a lot of clearcutting. Seedlings and saplings do not produce merchantable sawlogs for many decades. The majority of the increase in seedling/sapling acreage came for lower-valued subtypes dominated by fir, red maple, and aspen.

6. Domination of small saplings by shorter-lived, lower-valued, and more vulnerable species. The majority of all

Graph 1: Grade 1 Sawlogs
Percentage of all Sawlogs



ARE THE INVENTORY FIGURES ACCURATE?

Recently, the speedometer on my truck broke. It wiggled so much that I could not tell just how fast I was going. Were I remarkably perceptive and fast, I might have been able to take an average of the high and low range of the wiggles and estimate my speed. Unfortunately, before this problem started, the speedometer consistently gave wrong readings. I was able to calculate the "bias" and had a list of actual speeds posted on the dash of the truck. With the combination of the large confidence-interval wiggle plus the bias, estimating my speed became impractical. Time for a new speedometer cable.

The timber inventories are like a speedometer telling us our rate of wood use. Unlike a normal speedometer, which is based directly on the rotation of the wheels, the inventory is based on statistical samplings many years apart. Each sample has complex biases and multiple confidence-interval wobbles.

The sampling (and thus the bias) is not always consistent from one survey to the next. As stand types change, for example, the surveyors abandon some plots and start new ones so they can stratify sampling by type. But this affects their measures of change—which can only be done on plots that were there the last time. The plots that are lost may not have been random—there might be a pattern to them. Furthermore, there is some evidence that in the past some landowners knew where the plots were and treated them in a non-random fashion.

When the surveyors measure the volume of wood cut, they can not measure trees that aren't there, so

they use the volume of the tree at the time of the last inventory, 13 years before, even though it might have been cut last year. This can lead to inaccuracies in both cut and growth. Measures of quality have even more problems. The US Forest Service had to come up with a category called "cull decrement" to account for all the culls they counted in the last survey that turned out not to be culls in the current one.

Even without these problems, it is difficult to compare inventories from different years because of changes in sampling techniques and other procedures. Indeed, in 1971, 1982, and 1995 US Forest Service recalculated figures for the previous inventories. Some of these recalculations were done to make the past figures jibe with their estimates of change (which might not be accurate for the reasons already given). It is hard to know which figures to use.

Indeed it is infuriating when one wants to use figures from several inventories. The recalculations can be so far off from original figures that a decline in a species can turn into an increase, or vice versa. For example, in Washington County, using original 1982 data, aspen volume declined by 41% by 1995. Using the reconstructed 1982 data, aspen increased by 45%. The sampling error was 22%. So what happened? At this writing, there is an aspen wafer-board mill in Washington County that is shut down. Is this due to problems with real or reconstructed aspen?

Because of such recalculations, as well as changes in acreage, not to mention large sampling errors at finer levels of detail (similar to the wiggle in my

speedometer), the figures are not always consistent within or between surveys. The Maine Forest Service, for example, did a midcycle survey in 1991 that showed trends that seem to contradict evidence from the USDA Forest Service survey of 1995. In 1995, for example, tolerant hardwoods (hard maple, yellow birch, and beech) seemed to be going down in volume from 1982, but in 1995, they seemed to be going up.

I have talked to government foresters who have come up with reasonable explanations for the anomalies I have discovered. The public does not know these explanations, and the appearance of anomalies still persists. *The intent of this article, however, is not to determine the accuracy of the data, but to inform the public of what the data say.* Even this is a challenge—which data should I use? The original or the recalculated?

These surveys, flaws and all, are all we have to show changes in the forest over time. Before the surveys are published, "experts" do check them for figures that seem outrageous or impossible. The government also uses satellite and aerial photos to help interpret acreage and stand-type data. When I'm in my truck with its faulty speedometer, I can make a fairly good guess if I am speeding, based on road conditions, past experience, and the behavior of other drivers. A forest inventory with its limited sample of a 17 million acre forest is much more complicated. The surveys do show disturbing trends, and potential problems. Whether the reality is actually better or worse, only time will tell.

—Mitch Lansky

1-3 inch diameter trees were from three species—fir, red maple, and “non-commercial hardwoods.” White birch, red spruce, aspen, and beech followed. Of these, only red spruce is a longer-lived more valuable species.

7. Domination of the spruce-fir saplings by balsam fir. Ninety-five percent of the nearly half a million acre increase in spruce-fir seedling/sapling acreage were in fir-dominated stands. Even-aged fir-dominated thickets create stands highly susceptible to the spruce budworm, leading to serious management challenges.

8. Major regional declines and low volumes per acre. Four counties, Piscataquis, Somerset, Franklin, and Aroostook, had major volume declines resulting in low volumes per acre—less than 14 cords. In contrast, National Forests averaged over 32 cords to the acre. Except for Aroostook, the declines were in both softwoods and hardwoods. Past cutting levels cannot be sustained. Lowering cut, to allow volume recovery, is necessary, but will have economic consequences. These four counties contain half of the state’s timberlands.

9. Overcutting, clearcutting, low volumes, and low growth on forest-industry timberlands. Forest-industry lands had a cut to growth ratio of 2 to 1, the highest of any other identified landowner type. Industry timberlands averaged only 13.4 cords to the acre with only 0.18 cords per acre per year in growth, less than the 0.24 cords to the acre per year defining commercial “timberlands” and less than the 0.36 cords per acre per year growing on other private timberlands. Twenty nine percent of forest-industry timberlands were in seedlings and saplings.

To change these trends, state forest policy needs to address overcutting, understocking, highgrading, and stand damage. Combined, these practices lower volumes, lower productivity, lower timber values, and change species types over time—the very problems exhibited in the last inventory. The inventory figures suggest that there are still management opportunities, but these opportunities, especially with spruce, are diminishing and are becoming more challenging.

It is essential that state policy makers help to make stand-improving partial cutting more viable, while discouraging heavy highgrading and unnecessary clearcutting.

Hardwood Quality: A Long, Steady Decline

Although hardwoods declined in volume in Somerset, Piscataquis, Franklin, Kennebec, and Knox counties, they increased in volume everywhere else, leading to an overall state-wide increase. Was that a good thing? It depends on the species and the quality. Veneer or grade 1 hardwood sawlogs are some of the most valuable products a landowner can sell. Hardwood pulp and biomass are some of the least valuable. There are some circumstances where it costs more to cut and truck hardwood pulp or biomass than the wood is worth.

Although estimates of quality are some of the most questionable statistics to compare over time, there are data on percentage of sawlogs in different grades going back to 1959. The Maine Forest Service wrote in 1993 that “while most of the information collected in forest surveys involves physical measurement,..., quality assessments do not involve measurements but rather interpretation by the person collecting the information.” (MFS. 1993) The MFS also wrote that “given the numerous type of defects, making accurate quality estimates of hardwood is particularly difficult, even for the most experienced forester.” It is doubtful, however, that the standards have become stricter. The MFS wrote that, “While the written specifications of what constitutes a sawlog (quality) are similar across the inventories, the sawmill specifications have most certainly relaxed over the time frame involved.”

Based on the data, it appears that hardwood quality has been on a long, steady decline. In 1959, grade 1 sawlogs made up 17% of all hardwood sawlogs. In 1995, this was down to 9%. One species, red oak, bucked that trend. Yellow birch, which had a major drop from 1959, also seemed to improve slightly between 1982 and 1995, but during this period, grade 2 yellow birch sawlogs took a big drop. With sugar maple, ash, paper birch, and red maple, the trend is downward with each inventory. (see graph 1, on page 30)

The MFS came to the same conclusion in its 1993 report despite all of its caveats about the questionability of comparisons. “All this being taken into account, the survey data since the 1960s have indicated that the quality of the hardwood resource has been declining.” The quality decline is not explained by pests. The USDA Forest Service wrote in 1972 that “Most of Maine’s northern hardwoods have been managed very little, if at all. Most have been harvested by high-grading methods, which removed only the high-value species or the best-quality trees.”

That this trend has continued came as a surprise to the MFS since the volume of cut of tolerant hardwood sawlogs has actually gone down over time. (graph 2) In 1960, 36% of the hardwood harvest was in sawlogs, in 1991, 19% of the cut was in sawlogs. The hardwood volume cut for pulpwood has gone up, however, and is higher than spruce-fir. (graph 3) The MFS wrote in 1993 that “It seems clear that the effects of high grading,...continues to plague this resource.”

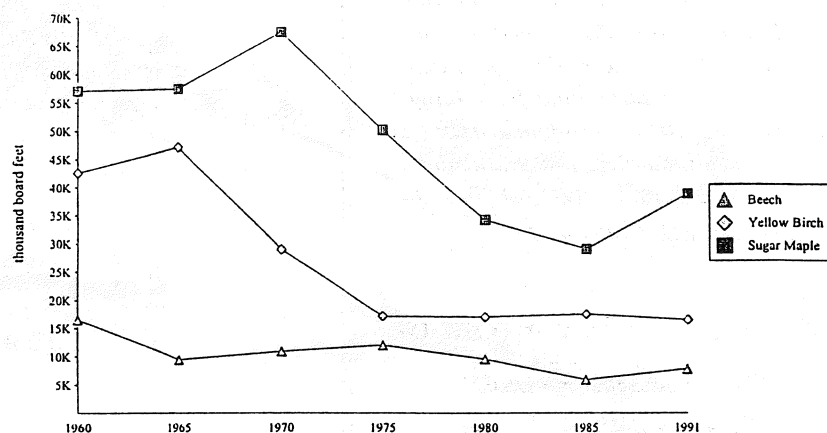
Preferred trees. One startling bit of evidence is the incredible drop in “preferred” trees between 1982 and 1995. A preferred tree is, according to the USDA Forest Service, “a high-quality tree, from a lumber viewpoint, that would be favored in cultural operations. General characteristics include grade 1 butt log (if sawtimber size), good form,

good vigor, and freedom from serious defects.” In 1982, 13% of hardwood trees were “preferred.” In 1995, this figure dropped to 0.7%. Softwoods had a similar major drop—from 28% to 4% of all live trees.

The percentage of trees that are rough or rotten culls, however, also

greatly decreased from 1982 to 1995. One reason for the dramatic shift was a major increase in what the US Forest Service called “cull decrement”—which were trees they thought were culls in 1982 that turned out not to be when surveyed in 1995. This makes comparison of these figures extremely difficult.

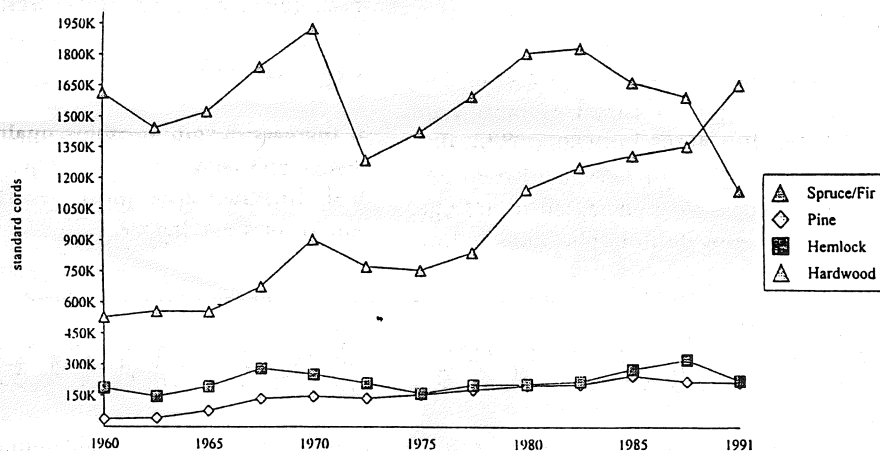
**Graph 2: Tolerant Hardwood Group
Sawlog Harvest Levels in Maine 1960-1991**
in thousand board feet



Note: These values include export volumes, but do not include imports.

Source: Maine Forest Service

**Graph 3: Pulpwood Harvest Levels by Species
in Maine 1960-1991**
in standard cords



Note: These values include exports, but do not include imports.

Source: Maine Forest Service

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