Grassroots Activism Produces Impressive Results

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Campaigns of Conviction or Circular Firing Squads?

The Forum is published by a network of Northern Forest community-based activists. We believe that the natural and human communities of our region will only be protected if we—the locals—in our own right, and main, is simply wrong to delude ourselves into thinking we locals can work wonders all by ourselves. In this crazy-quilt global economy, we are up against forces and institutions more powerful than any yet conceived by power-hungry, earth-strangled mortals. We need help, and lots of it.

Postmodern readers are well aware of a recurring theme of the difficulties grassroots activists and established environmental organizations encounter when trying to address the same issue from quite different perspectives. The rupture in the Maine environmental community in 1996 between citizen proponents of the “Compact for Maine’s Forests” with grassroots activists and established environmental organizations manifest of the frequently dysfunctional relationship between the two camps.

The purpose of this editorial is emphatically not to belabor this truism. Rather, I hope to outline a means by which we can work together productively, especially creatively.

In March I was invited to discuss forest policy with many of the leaders of the Northern Appalachian environmental community. I devoted much of my allotted ten minutes to the serious rift between the community and mainstream camps. After my talk, one individual for whom I have enormous respect challenged me. "I agree with almost everything you said," he responded, "but grassroots activists can be wrong too." I agreed, recalling the brochure accusing herbicide sprayers of wanting to establish oak and pine plantations in the Northeast Kingdom of Vermont—a blunder guaranteed to alienate our neighbors who know what will and will not grow in these northern soils. Grassroots activists must take extra precautions to assure that their statements are accurate; our critics love it when we are sloppy with information. As we like to say at the Forum, the ecological truth is on our side; all we have to do is spread the word.

There are some fundamental problems between grassroots activists and mainstream groups that must be resolved. (My take on these problems, clearly, is from a community organizer’s perspective; perhaps a member of the mainstream community will respond with a constructive critique of community activists.)

I fear mainstreamers too often view community activists as a reproach. Our very existence implies to them that they aren't doing their jobs adequately. There are times when grassroots groups must spring into action to counter wrong-headed mainstream campaigns. The successful campaign to block wind power development in Western Maine's Boundary Mountains is a case in point. (See pages 23-25)

But this should be the exception. It is far more productive to view the dynamic tension between grassroots and mainstreamers ecologically—we all have our niches. Community-based groups are essential; only members of a community can truly know that community. On the other hand, community groups rarely have the resources and expertise to sustain research, and political campaigns and lobbying at the state and federal levels. They need allies who can—the established groups. As the Vermont herbcide campaign eloquently testifies, our diversity is our strength. Mainstream groups are no longer dismissed as modeling outsiders by the locals, and grassroots groups are no longer swallowed up in the mazes of the political bureaucracy and power.

We must be clear about what we want for Northern Forest communities. Do our communities exist merely to feed the global economy? Can anyone offer any evidence that industrial forestry is compatible with ecosystem integrity? Mitch Lansky's important study in this issue, "Patient Money--The Economics of Low Impact Forestry", elegantly contrasts the opportunities opened by building a local economy in greater harmony with natural systems with the consequences of feeding the global economy.

Too often, mainstream groups are conflicted. On the one hand, they understand the negative impacts of the global economy; on the other, they are part of that system's power structure. They fear a loss of access to powerful politicians if they challenge the underlying assumptions of the global economic paradigm. To paraphrase Lois Marie Gibbs, community activists want to prevent the global economy from damaging our natural and human communities; the mainstreamers want to control those abuses through reform of the system.

Some board members of many mainstream groups work for paper corporations, the timber industry, banks and the like. They will not tolerate challenges to the assumptions of the global economy. Thus, you have the seemingly spectacular of timber industry moguls—with a clear conflict of interest—dictating policy to environmental groups. Industry understands divide and conquer politics. Environ too often seem intent on forming circular firing squads. It's not hard to understand why, after all these years, there are still not meaningful regulations governing clearcutting, liquidation, and high-grading, despite overwhelming evidence of a crisis in the forests and strong public support for ending these practices.

We must respect the all-too-political approach to ecology policy. This is the really tough one. Do we address biological and ecological problems through the lens of conventional political compromises and political correctness? I think not for a couple of reasons:

(1) Ecosystems operate by their own set of natural and physical laws, independent of the values and institutions of human society. Political compromise may work when negotiating tax policy or highway speed limits, but it is a calamity when imposed on ecosystems. Politically motivated compromises are too often ecological disasters.

(2) I'll never convince you to adopt my political ideology, and you're not likely to get me to adopt yours. Political values are not absolute, and there is no way of proving one is right, the other is wrong. Mainstream groups have headquar- tered in state capitals, with relatively large endowments and boards composed of politically and economically well-connected individuals see things differently. The best they can do is usually poorly funded and poorly connected. We just aren't going to consensus around a political philosophy.

Both these reasons argue convincingly for mainstream and grassroots groups to find common ground in ecological reality, not in the shifting sands of realpolitik. We may not be able to convince the public of the virtues of our particular political ideology, but we sure can point to the ecological consequences of clearcutting, spraying pesticides, degrading wetlands, dumping toxic chemicals, driving species and natural communities to oblivion, and poisoning the air with acid rain and hydrocarbons.

To save the world's natural and human communities, citizens groups and established groups must join forces, challenge the suicidal assumptions of our global economic paradigm, and resist the political and economic pressures to trade thorough protection of ecosystem integrity for a place at the banquet table of the despoilers and their political servants.

Mainstreamers and community groups that collaborate on those terms will have support in Northern Forest communities because they are taking an uncompromising stand in defense of ecosystem integrity, instead of striking a political compromise with biological reality.

Adopting an ecological approach to ecology policy marks the beginning of a true campaign of conviction. Campaigns of conviction can never be defeated. Ask Frederick Douglass, Gandhi, Martin Luther King, and the citizens of Vermont who fought herbicide spraying.
Vermont Legislature Addresses Herbicides & Liquidation

**Dramatic Floor Fight on S28 Amendment**

by Andrew Whitaker

As we head to press, it would seem that Vermont forest policy is in the hands of the gods and laps of the legislature. A bill establishing a moratorium on the application of herbicides to forest land has been passed by the House and a (unnumbered) liquidation-cutting bill will have worked their way out of the House Natural Resources Committee by press time. An early vote is expected on the cutting bill, while S28 should hit the floor by mid-April.

After that, the bills go to the Senate, where the upper chamber will get its first look at the heavy cutting bill, which is largely the result of shuttle diplomacy by Forest Resource Advisory Council chair, Darby Bradley. The proposed legislation attempts to target large, hillside clearcuts such as now dominate views of both northern Vermont and New Hampshire as well as massive liquidation highgrades occurring in central Vermont. (See page 10 of the Vermont Citizens' Forest Roundtable sit in the right foreground. Photo © Gustave W. Verderber)

An intense debate was witnessed by a chamber full of citizens opposed to spraying, who occupied the downstairs and upstairs galleries as well as Senate floor coaches and windows. Welcomed by Lieutenant Governor Douglas Racine, the crowd recalled a controversy demonstration which disrupted a FRAC meeting in August, 1996. The protest was organized by the Native Forest Network and followed pageantry on the statehouse lawn by the Bread and Puppet Theatre. Three Republicans broke ranks to vote with 17 Democrats in defeating the amendment offered by Senator Vincent Illuzzi of Essex/Orleans. During debate and after, Illuzzi sarcastically noted that Chittenden County was deciding for the Northeast Kingdom what its own interests were. Illuzzi was joined by the three other Northeast Kingdom senators, who protested that the ground moratorium was never suggested by FRAC.

Numerous phone-ins from Northeast Kingdom residents helped defeat the Illuzzi amendment. So many calls were received by the time of the floor debate that the Sergeant-at-Arms office simply named raves and provided senators with copies, which helped define Illuzzi's allegations of carpet-bagging. (The senator himself has reported in conversation that 80% of his constituents oppose spraying.) Onlookers cheered at the announcement of the 20-10 vote while the lieutenant-governor gavelled for order.

It was a jubilant moment for herbicide opponents, many of whom felt the arguments raised by pro-spray senators had been refuted many times over in earlier forums. "How do we elevate political debate to citizen-level discourse?" moaned one activist. "This was moronic." During the debate, one senator asserted that Champion, which proposes to spray clearcuts with herbicides as it does in Maine and New Hampshire, "does not clearcut." Another senator asserted that Vermont's "junk" forest requires intense cutting and spraying to restore "productivity."

**House Debates Logging Bill**

House members subsequently received a dose of the forest debate, in two grueling evening hearings addressing cutting and spraying. Bi-partisan support exists for the pending forest bills; this is the third year the House Natural Resources committee has found itself at the center of forestry debate and familiarity seems to have enhanced the committee's willingness to act.

In remarks addressed to the committee, David Briars of Craftsbury noted key differences between the herbicide and cutting bills. "These are two bills with tremendously different backgrounds," he said. The herbicide bill emerged from a process which educated both public and FRAC members, and resulted in a "cross fertilization of ideas. '"What concerns me is this: (cutting) bill had no such background, it was done in back-room deals, the public was not involved, and had no time to think about it."

Testimony taken by Natural Resources from two foresters gave a foretaste, however, of what may transpire in rulemaking. David Guenther, a state forester, testifying as a private citizen, said he has crossed the line in the past year from opposing to supporting cutting regulation. His view of the current bill's residual stand criteria may be too lenient a measure for determining review.

Private consulting forester Lynn Levine of Dummerston also advocated a different approach to regulation. Her proposal is that all operators be required to check their harvest sites against maps of the state Natural Heritage program, available for all towns, through the town clerk. These maps locate a variety of resources, including unique habitats, wetlands and rare plants. Overlaps would require appropriate measures.

The committee, however, has witnessed a shift within industry that will make opposition to the bill difficult to sustain. While some in industry insist forest liquidation remains the landowners' right, and that, implicitly, there is no public interest involved in forest matters, others have come forward to support the bill. While cynics suggest that it is because of loopholes, others suggest the rulemaking process is a strong alternative to building a case for regulation from scratch. Defeat of the cutting bill this year would preclude another such effort until the next session.

Governor Howard Dean is expected to sign forestry legislation passed by the Legislature. In his January address to the joint assembly, Governor Dean drew his first applause when he said he supported and expected to sign into law the Forest Resource Advisory Council's recommendations on clearcutting and herbicides.
Herbicides on the Move - The Saga of Spray Drift

by Daisy Goodman

During the Herbicide Project appeal of Boise Cascade's 1996 aerial spray permit, Boise Silvicultural Administrator Ernest Von Tobel implied that the use of the Global Positioning navigational system guaranteed elimination of positioning errors by enabling aerial applicators to spray "on a dotted line". According to Von Tobel, use of the Microfoil boom ensures that large, heavy droplets of 600 microns diameter drop directly to the ground, intact. Once the herbicide mixture reaches the ground, what is not absorbed by target species is doomed to drift into nontarget areas, where it remains immobile until biodegradation into harmless compounds occurs through action by sunlight and soil microbes. In this corporate fantasy world, water contamination by runoff, drift, and other hydrologic pathways downstream is assumed to be over by technology. Is it possible that industry's earnestly felt commitment to aerial herbicide applications is interfering with the quality of its scientific reasoning? 1

In a recent interview with the Boston Globe's Bob Brule, New Hampshire Pesticide Control Division Director Murray McKay stated that the debate over herbicide applications in forestry and right of way management must return to science rather than being influenced by "emotion" (on the part of opponents). 2 On the contrary, science casts serious doubts on claims by Boise Cascade (now the Mead Corporation) and Champion International that technology can eliminate off-target movement of herbicides after the spray leaves the nozzles attached to the aircraft.

Off-target movement of herbicides significantly extends the range of herbicide effects outside of the target area, including compromising water quality and potentially affecting areas not on industry lands. Rationalizing that technology can overcome natural forces is a politically rather than a scientifically based strategy. Unfortunately, it is one to which the New Hampshire Division of Pesticide Control appears susceptible.

Initially, off-target movement of herbicides occurs as a result of spray drift. It is universally accepted that fine droplets, which occur from both aerial and ground applications, drift farther because they are lighter. However, large droplets break easily into smaller droplets when falling through air. In addition, when applying herbicides, the force of turbulent air created by the aircraft itself breaks larger droplets into smaller "finer", a process called "shearing". 

According to the Spray Drug Task Force of the North American Agricultural Chemical Association (an industry research group now known as the American Crop Protection Association), droplets of less than 150 microns were produced from the majority of nozzles manufactured. 2 An additional concern is loss of a percentage of the volume applied into the atmosphere. The sulfonureas (for example, Oust™) are particularly prone to this because they are volatile compounds, capable of becoming gaseous and entering the atmosphere, 3 to be transported a significant distance until brought back to earth in precipitation or wind currents. 4 The Ecological Effects Branch of the US EPA Environmental Fate and Effects Division predicts that a percentage of any application will transport "potentially as far as two or more miles from the treatment site". 5

Highly potent herbicides such as sulfometuron methyl and imazapyr will cause significant damage in drift concentrations. In gauging the potential environmental effects of off-target movement occurring in aerial applications, the EPA uses a 40% efficiency loss (volume loss) as a figure. This figure refers to off-target movement that is undetectable, or "lost". EPA also estimates that an additional 5% of the applied volume will move off-target as detectable (visible) drift. This means that a total 45% of the volume applied is expected to move off-target through the combination of drift and surface movement. 6 I choose these estimates because they are conservative in comparison to other research. 7

Once the spray hits the ground, whether on-target or off, it continues to distribute throughout the affected ecosystem through a number of pathways. Obviously, movement from pesticide drift into water is a serious concern, as are residues on temporarily "dry" drainage areas. Additional movement potential includes leaching of herbicides through soil into ground water, and movement of herbicides, adsorbed to soil particles, through erosion. Turner reports detection of sulfometuron methyl (Oust) at 600 feet from the treatment site as a result of movement in wind-blown soil particles. 8 In a study of the leachability of Imazapyr (Arsenal™), Vianinopulos concludes that "registration of imazapyr should be re-examined in some cases of its application on light soils or in regions with annual rain fall over 500 millimeters and high level of ground water". 9 Ground application of glyphosate was shown in a Canadian study to contaminate ground water. 10

According to a study completed for the Washington State Department of Ecology by Ed Rashin and Craig Graber in 1993, the majority of pesticides introduced into water by aerial spraying could be attributed to drift and splash displacement (the technical term for the fact that droplets do not fall straight down from the nozzle, but rather at an angle due to the movement of the aircraft). 11 Three factors reduced the effectiveness of buffered areas. In addition, small streams which were not marked with buffer zones were sprayed, contributing to residues in larger waterways downstream. Spraying of runoffs and drainage areas which became wet during the next precipitation was found to cause higher level concentrations in water downstream than if that water had been directly sprayed. 12

An elementary hydrologic principle, explained in my children's "Magic Schoolbus" science series, but apparently unacceptable by the architects of the Mead aerial spray program, is that water is always on the move, and in the liquid state carries dissolved substances with it. 13

Movement of herbicides in water is a serious concern for wetland habitats in Coos County where heavy rainfall is usual and wetlands are ubiquitous. Since Accord, Arsenal, Sulfometuron Methyl and POEA are all water soluble compounds, movement in water will carry drifting residues much farther. The proposed 1997 application by Mead Corporation (see map) shows typical industry concern for proximity to water and possible contamination of major waterways with herbicide residues.

Pontook Reservoir and the Androscoggin River, the first paper mill at Berlin, NH are famous fishing areas, widely used by both local people and tourists. Unfortunately, Rainbow trout has an LC50 (lethal dose for 50% of the test group) of 2.5 mg/liter when exposed to the glyphosate/POEA combination (Accord™, Entry III™), and amphibians and invertebrates, a major food source for fish, have even greater sensitivity. According to the EPA, the LD50 of POEA in mammal studies is 630 mg/kg, which places this surfactant close to the limit of what is still considered by the Agency to be a "moderately toxic" substance.

Since the public drinking water supply for the City of Berlin is taken from the Androscoggin River directly below the outlet of the Pontook reservoir (see map), the potential for herbicide residues in city water as a result of water contamination through drift and runoff from sprayed areas is certainly of concern to area residents, not State officials.

Similar results could be extrapolated for aerial applications, which affect larger areas. Since the sulfonouras herbicides have been shown to impact plants, particularly plant reproduction, in parts per billion concentrations, off target drift from any mode of application is likely to produce significant phytotoxic results in surrounding areas.

NH Government Snubs Public

Unfortunately for the principle stated in the Declaration of Independence that "governments derive their just powers from the consent of the governed", the NH House Environment and Agriculture Committee decided in March that public notification and public hearings on applications for aerial spray permits in non-residential areas were unnecessary due to the overwhelming number of such matters by the Division of Pesticide Control.

Simultaneously, the Pesticide Control Board decided to put its proposed rule changes, which include public notification and public hearings, to rest by appointing a committee to study them and make recommendations. This committee, as it currently stands, contains three open proponents of aerial spraying, including Champion administrator Peter Ludwig, two members of the Pesticide Control Board, a representative of the NH Forest Enviroment and Agriculture Committee, and Brian Hart of the Northern Forest Alliance.
Mead Corp. Granted 1997 Spray Permit

As of today, the public still has no influence on pesticide use in our communities; public opposition to aerial spraying continues to grow exponentially; and the Division of Pesticide Control issued a challenge to a Special Permit for Aerial Application of Pesticides to Mead Corporation on March 19.

As discouraging as it is to have the door slammed in one’s face repeatedly by the state government, it appears that the public uproar about broadscale herbicide use has positively influenced the Division of Pesticide Control’s 1997 aerial spray permit review. The 1996 application review lead gone unopposed for Boise Cascade; a bare-bones application with illegible maps and minimal information about the nets and bolts of the proposed application slid quickly through agency reviews and across the Division Director McKey’s desk. The hawk still may object to the herbicide Project apparently inspired a check by the Pesticide application in 1997. Although the format was essentially identical, this application was far more closely reviewed, leading to two pages of requests for additional information and the Division’s denial of Mead’s use of both the Oust™ and Garlon® 4 herbicides, and the use of computer generated maps lacking recognizable topographical features.

Special Permit SP-027, a much longer document than last year’s permit, contains a number of interesting conditions. Most encouraging of all, a more careful review of this year’s application revealed a problem with the registration of the DowElanco product Garlon 4®, leading to withdrawal of the herbicide from the Mead proposal. Local bodies of water will therefore be spared the interjection of a different herbicide and one of its associated “inert” ingredients, kerosene, at least for this year.

In contrast to last year, when Mead intended to spray in all of its applications, the highly praised and historic area scheduled for spraying on only two sites this year. Due to pressure from two citizen’s groups, the Division of Pesticide Control has also appointed a committee to review the New Hampshire registration of this controversial family of herbicides (and coincidentally) asked Mead to justify its use of Oust this year. Not surprisingly, the PCB has registered the herbicide contingent on the committee’s investigation and has, of course, issued a permit for its use in the Androscoggin River watershed.

The Special Permit also places parameters on drift, including prohibiting drift contamination of, and requiring buffer zones for, existing bodies of water, springs, and non-tidal coastal areas when there is active water flow. Without飘禁在 awarding a permit, the Division of Pesticide Control to monitor the area "as soon as possible after the effects of the herbicide can be seen". Local community members are reviewing a number of strategies to stop the spraying this year. For right now, calls to protest the issuance of the Special Permit SP-027 for aerial application of herbicides to Mead Corporation may be placed to Governor Jean Shaheen at (800) 852-3456 or to the Governor’s Environmental Liaison, Susan Arnold at (603) 271-2121.

Thankful

Footnotes

2 Maciorowski, loc. cit.
3 “Indiscriminately from the Skies” Caroline Cox, Journal of Pesticide Reform, 5:5.
4 “Post-Application Movement of Sulfometuron Methyl from treated Right of Way Areas via Wind (Soil) Erosion” Stuart Turner, 4th Symposium on Environmental Concerns in Right of Way Management, Indianapolis, IN, 1993 (Purdue University).
5 Jeffery Elliott, personal communication.
6 “Levels of the Herbicide Glyphosate in Well Water” NJ Smith et al., Bulletin of Environmental Contam .
7 “The Northern Forest Forum Page 5

The two clearcuts in the left-center of the picture are targeted for spray by Mead in 1997. The Pentucket Reservoir to their right is about a one minute walk from the spray area. An army tent, well-known to Dummer residents, is located between the spraying area and the reservoir. Mead wants us to believe that drift from their herbicides won’t enter the Reservoir. Residents of the Berlin, NH area who draw their drinking water from the Androscoggin River which flows out of the Reservoir are to say, the least, skeptical. Photo © Alex S. MacLean—Landslides

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5 Jeffery Elliott, personal communication.
6 “Levels of the Herbicide Glyphosate in Well Water” NJ Smith et al., Bulletin of Environmental Contam .
We've won the first skirmish! Maine's Supreme Court ruled against the Maine Farm Bureau, which had sued the Secretary of State on our Referendum's clear.

4. Synthetic pesticides may not enter certain waters.

SEC. 1

7 MRSA 

Sub-B and 4 are enacted.

Aerial spraying prohibited. A person may not apply pesticides, or cause pesticides to be applied, by means of aerial spraying.

4. Synthetic pesticides may not enter certain waters.

A person may not cause, by any means, the introduction of synthetic pesticides into a well that supplies drinking water, as defined in Title 38, section 361-A subsection 2-A, aquifer, as defined in Title 38, section 361-A, subsection 2-D, fresh surface waters, as defined in Title 12, section 591, subsection 2, of this State.

Our time and labor, contact: CLEAN-Maine, P.O. Box 186, Jonesboro, Maine 04648, 207-434-6228

Update on Proposed Toxic Cranberry Bogs in Washington County, ME

by Nancy Oden

On March 26 the BEP (Board of Environmental Protection) decided it will take jurisdiction on the Canadian company, Cherryfield Foods, monster cranberry bog proposal. Given the Board's anti-environmentalism and canine-baring snarls at citizen activists, who have been decked out in suits, this gives us all a small chance. For influencing the decision, and a tiny chance for public hearings, always a plus for exposing the truth and gathering support.

Gov. King really, really wants this project. He has higher ambitions when his days of being Maine's governor are over. Creating jobs, even at the expense of turning the valves aside from the "benefits" just stated? The quality jobs of turning the valves in the fake bogs, putting pesticides into the bogs, and letting those waters loose which says NO pesticides may not enter certain waters.

The quality jobs of turning the valves in the fake bogs, putting pesticides into the bogs, and letting those waters loose to harm everything in their path.

More semi-good news is that the LURC (Land Use and Regulation Commission) has decided it does, indeed, have jurisdiction over this 1400 acres of woods, wetlands, and rivers. Please write them (Augusta, Maine 04333) requesting public hearings. This is important.

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Hubbard Brook Studies Raise Troubling Questions About Northern Forest Health

by Emily Bateson & Kathy Lambert

When the long battle over the 1990 Clean Air Act amendments was over, everyone breathed a sigh of relief: the acid rain and forest health crisis was over. But it is really? The answer is critical for the future of the Northern Forest and its inhabitants.

North American acid rain was first identified in the Northern Forest, by Dr. Gene Likens and colleagues at the Hubbard Brook Experimental Forest. Owned by the USDA Forest Service, the New Hampshire site has been the home of the Hubbard Brook Ecosystem Study for over 33 years. The Hubbard Brook Ecosystem Study is a long-term ecological research initiative involving over 40 scientists from universities, research institutions, and federal agencies, working in cooperation with USDA Forest Service. The study has measured stream flow, rainfall, water chemistry, bird populations, forest growth, and other ecological parameters for over 33 years. This investment has yielded an ecosystem assessment model emulated world-wide, and over 1,300 scientific publications and reports, detailing air pollution and forest management effects on clean air, clean water and forest health.

It was only because Hubbard Brook scientists had collected 18 years of water chemistry data that the acid rain trend was both recognizable and fully defensible. In the Clean Air Act amendments of 1990, Congress mandated a 50 percent reduction in 1980 sulfur dioxide levels by the year 2010.

With the air quality improvements mandated by the new Clean Air Act, policymakers expected our forests, streams and lakes to take a speedy recovery, and many assumed the acid rain problem was solved. Yet many questions remain about forest health in the region.

Stream water in the Hubbard Brook watershed has shown no significant improvement in acid levels since the 1990s. Fish communities still suffer from acidification. Still, stream water flows across the Northeast because of mercury contamination and/or dioxins, and recent research suggests that acid rain effects on forest soils may be contributing to reduced forest biomass accumulation (growth) rates.

Most notably, Drs. Gene Likens, Charles Driscoll, and Donald Buso examined 30 years of Hubbard Brook data and reported their findings in the April 1996 issue of the journal Science. According to the authors, Hubbard Brook data suggest that large quantities of base cations have been lost from the forest soil and carried away by stream water (Likens et al. 1996). Base cations (mainly calcium and magnesium) are essential nutrients for plant growth and also help counteract the effects of acid rain by neutralizing acidic pollutants (Hedin and Likens, 1996).

Losses in base cations have been attributed to the combined effect of long-term exposure to acid rain and declines in atmospheric deposition of base cations. Hubbard Brook data show a 49 percent drop in base cations in precipitation since 1965 (Hedin and Likens, 1996) and a 50 percent reduction in calcium in the soil at Hubbard Brook over the last 45 years (Kaiser, 1996). These losses seem to be aggravating the ecological effects of acid rain.

Dr. Likens and colleagues found that annual forest biomass accumulation (growth) at Hubbard Brook Experimental Forest has "declined unexpectedly at a small rate since 1987" (Likens et al., 1986). Limited calcium availability has been cited as a possible cause for this slow down in growth, but the mechanisms are complex and not yet well understood. Future Hubbard Brook research will include application of isotopic tracers to assess what role acid rain and calcium plan in forest health.

What does it all mean? Dr. Gene Likens explained in an April, 1996 The New York Times article, "If indeed the forest has become limited in its growth by the disappearance of these base cations—and I emphasize if—that is a very serious implication of these results." Because the base cations are leaching from the soils, the forests appear less and less able to neutralize the continuing deposition of acid to the system. "The system is now very sensitive," Dr. Likens reported to the Times.

Despite the implications of the Hubbard Brook research, acid rain has faded from the public consciousness. Funding for the National Acid Precipitation Programs been cut by 84 percent over the past decade. Most recently, the United States Geological Survey acid rain program (part of a program that monitored rainfall across the nation for the past 20 years) has been eliminated. President Clinton has promised to balance the budget in part by cutting science funding 35 percent by the year 2002. Although Vice-President Gore has challenged the federal agencies to produce an "environmental management report card," the long-term monitoring funds which would make such a report possible are drying up.

The health of the northern forest economy of course is under stress from air-borne pollution. Despite our hopes for recovery from air pollution, some forest ecosystems show lingering effects. It may take decades for some forests to rebuild their pools of essential nutrients, even if air pollution levels continue to drop. (Hedin and Likens, 1996). The 1990 Clean Air Act amendments may not be sufficient to protect our forests and streams against further anthropogenic acidification. Those who care about the future of the Northern Forest would do well to give close scrutiny to overall forest health, and to the long-term monitoring and scientific funding necessary to identify and advance the key ecological issues.

Emily Bateson is on the Board of Directors of the Hubbard Brook Research Foundation. Kathy Lambert is the Director of the Futures Assessment Project, Hubbard Brook Research Foundation.

References


A Call for Action as Mercury Rises in the Northeast

by Michael Bender

"The federal Environmental Protection Agency has sold out the public, bowed to industry pressure in cooperation with USDA Forest Service. The study has measured stream flow, rainfall, water chemistry, bird populations, forest growth, and other ecological parameters for over 33 years. This investment has yielded an ecosystem assessment model emulated world-wide, and over 1,300 scientific publications and reports, detailing air pollution and forest management effects on clean air, clean water and forest health."

"Like acid rain, toxic mercury from Midwestern coal-fired power plants and waste disposal facilities rains down especially hard on the Northeast, threatening forests, water bodies, fish, and people. And like the acid rain debate, some would prefer nothing more than to study mercury to death rather than prevent pollution."

Moreover, even in minute concentrations, mercury can result in reproductive and neurological problems in humans and animals. Because of this, 36 states (including all Northeastern states) have issued advisories warning people, particularly pregnant women and children, about consuming fish due to high levels of mercury. Studies show that high concentrations of mercury in New England bald eagle and loon populations are well above average and may impact reproductive rates. Mercury levels in these populations are closely correlated to EPA-projected amounts of mercury deposited from the air in the Northeast.

In February, the Vermont Senate passed J.R.S.12, a resolution urging EPA to release the Mercury Report to Congress and to not exempt mercury hazardous waste lamps from regulation. You can help by calling your congressional offices and state representatives to support passage of a similar resolution.

When you call or write, inform them that you support efforts by state environmental commissioners who have urged EPA to release the mercury report. These include the following commissioners: Varney (NH) 603-271-3503, Sullivan (ME) 207-278-7888, Ripley (VT) 802-241-3620, Straus (MA) 617-392-5500, and Shinn (NJ) 609-292-2885. You can also say "I support that Assembley Brodsky, Chair of Environment Committee (NY) 518-455-5753 and 50 U.S. Representatives and Senators, led by Senator Leahy (VT), have all urged EPA to release the mercury report. For copies of the state mercury resolution, letters to EPA, or for more information call Michael Bender at (802) 223-9000.

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Mad Season 1997

The Northern Forest Forum
Wildlands: A Conservation Strategy for the Northern Forest" details the Alliance's Wildlands concept, and describes ten places the Alliance believes merit special protection.

Conserving Wildlands is one of the Alliance's three central goals, along with ensuring well managed private forests, and building strong local economies. As outlined in the report, the Alliance's goal is to conserve or restore the wild character and ecological well-being of this vast forest land in a way that meets human and economic needs. Identifying a system of Wildlands is described as key to maintaining the ecological integrity of the Northern Forest while ensuring that it continues to provide high quality recreation and timber products. The report recognizes that the 26-million-acre Northern Forest has been the cornerstone of a way of life in New England and New York for generations, and it recommends using an array of private and public conservation techniques to protect the forest from fragmentation and unwanted development.

In publishing "Wildlands: A Conservation Strategy for the Northern Forest," one of the Alliance's goals is to encourage serious public discussion across the region about how to protect our most important forest resources. Conservation of these areas can come in many forms—wildlife refuges, public and private purchase, management plans, local regulation, easements, and other methods. As stated in the publication, "The Alliance advocates that each state follow the Northern Forest Lands Council's recommendation to provide citizens with an open public process to identify land conservation priorities." This type of constructive public discussion is already underway in Maine, and will soon begin in Vermont.

A section of the "Wildlands" publication is to offer more information about the ten places the Alliance considers most important to protect because of their ecological and recreational values. The Alliance believes these places are that can help provide sustainable yields of timber, maintain the ecological health of the region, provide wildlife habitat, and support traditional recreation such as hunting, snowmobiling, fishing, and hiking.

The Northern Forest Alliance proposes three opportunities to create a system of Wildlands across the Northern Forest to serve the following purposes:

• Continue to provide open access for traditional recreation such as hunting, hiking, fishing, canoeing, camping and other activities.
• Include permanent protection for ecological and recreationally important areas within each Wildland that guarantee wildlife habitat and true wilderness experiences for future generations.
• Support sustainable timber harvesting that meets clear ecological and sustainability guidelines.
• Remain essentially undeveloped, with new construction that is inconsistent with maintaining the area's wild qualities, ecological integrity, and productive forests.

The Alliance strongly supports an open, public process that empowers everyone to work together to find cooperative, practical ways to conserve the Northern Forest. The result will offer future generations three ingredients critical to a high quality of life: a sound environment; healthy forests that can support our forest-based economy; and an inviting natural landscape that provides great recreation.

The 10 proposed Wildlands include:
• Greater Baxter State Park Area, surrounding Maine's largest public land area.
• Upper St. John River Valley along the Canadian border.
• Down East Lakes, including the largest peatland in Maine.
• Western Mountains, Wildlands including eight of Maine's 12 highest mountains.
• Androscoggin Headwaters, straddling the Maine/New Hampshire border.
• Connecticut River Headwaters, including the developed areas downstream from First Connecticut Lake.
• Nulhegan & Victory Basins, in northeastern Vermont.
• Northern Green Mountains, along the northern spine of the Green Mountains.
• Ontonagon Great Forest & Boreal Heritage Reserve, in the western and northwestern portion of the Adirondack Park.
• Tug Hill Plateau's Forest Core, an extensive, undeveloped system of wetlands and headwaters west of the Adirondack Park.

The entire Northern Forest, the largest remaining undeveloped forest in the East, comprises 26 million acres of woods, water, and fresh air, the rivers from Maine's North Woods, New Hampshire's North Country, Vermont's Northeast Kingdom, and New York's Adirondacks and Tug Hill region. The Northern Forest is the economic and environmental backbone of the region, providing jobs in the forest products and tourism industries, and encompassing the limited undeveloped lands remaining in the region.

The Northern Forest Alliance, formed in 1990, is a coalition of more than 30 conservation, recreation, and forestry organizations committed to providing permanent protection of Wildlands; ensuring well-managed forests that supply wood products, support wildlife, and provide recreation and building strong, diverse local economies to provide stable jobs and support communities. The Northern Forest. Copies of "Wildlands—A Conservation Strategy for the Northern Forest" are available on request from the Northern Forest Alliance, 58 State Street, Montpelier, VT 05602. Tel. 802-223-5256.

Lost Landscapes and Failed Economies Examines Declines in Resource Extraction Communities

In opening remarks to his new book, Thomas Michael Power writes: "Ideally, science strives to help people see things, and make connections that were not visible before. This book endeavors to do just that." "Lost Landscapes and Failed Economies" unquestionably succeeds.

Chair of the Economics Department at the University of Montana, Power draws upon environmental controversies of the American West to illustrate his major premises. He challenges the "common knowledge" that natural resource extraction is the foundation of the region's general and even rural economies.

Acknowledging that citizens, politicians, resource managers and many environmentalists are out of touch with the economic realities of their backyards, Power suggests that quality of life attributes—not resource extraction—drive most of the West's economic activity. Environmental conservation makes not only ecological, but economic sense as well.

While Power's primary focus is on the western United States, his analysis and general principles apply equally to timber towns in Maine and mining towns in Yukon Territory.

Decline of primary industries in the West has been represented not so much a disaster as an economic maturity that offers opportunity. Industries that value a mature, well-educated and stable workforce can also offer good wages and economic security. While resource extraction industries decline, most of the West is experiencing just such growth. Power suggests that resource extraction industries almost always create dependent, third-world colonial economies. He also takes on the myth of the low-wage service industry that "everyone will soon be flipping burgers." If Power is correct, there is much to be optimistic about.

In closing, Power argues that we are selling off valuable and rare landscapes for things that are relatively common and easily replaced. A barrel of oil, he notes, is the same whether it comes from Texas, Saudi Arabia or the Arctic Wildlife Refuge in Alaska—while the Refuge is a global rarity. Yet, the western United States has yet to value its landscape logically. We drain rivers to grow livestock feed, while tourists go extinct. We build roads to extract eight-inch trees in the Rockies and doom grizzly bears. We allot the majority of forage on public lands to grow cows instead of bison, elk and bighorn. Power concludes that we can no longer squander the unique to procure the common.

Change the name of the players, and you have much the same arguments and mythology dominating discussions of the Northern Forest region. If Power is correct, protecting landscape quality not only improves the environment of local communities but enriches them economically as well. It's not the only argument to use to promote restoration of the Northern Forest, but Power's book provides many insights into how the economic debate need no longer sidetrack ecological restoration efforts.

—Reprinted by George Wuerthner
Investing in Public Land: A Necessary Foundation for the Northern Forest

Editor's Note: The following is adapted from a recent report commissioned and prepared by the National Wildlife Federation's Northeast Natural Resource Center based in Montpelier, Vermont. This report, Investing in Public Land: A Necessary Foundation for the Northern Forest is most reading for anyone interested in public land acquisition issues. For further information, or to receive a copy of the full report is available from NWF, 58 State Street, Montpelier, VT 05602. Tel. 802-229-0650; FAX 802-229-4532.

When we see land as a community to which we belong, we may begin to use it with love and respect.

-Aldo Leopold

I: A Region's Well-Being Depends on Investments in Forests and Related Public Goods

Forests Are Part of the Region's Commonwealth

Over the past several years, residents of the four northern New England States—Maine, New Hampshire, Vermont and New York—have been thinking about the vital environmental quality. Eighty five percent of respondents believe that the federal government should bear a large share of the development costs, but the ownership, management and maintenance should remain with state and local governments. (Partnerships with private and non-profit organizations would be desirable.)

Infrastructure—Built and Natural—is Needed to Supply Public Goods

When people hear the word "infrastructure" they usually think of roads, transportation systems, water supplies, wastewater treatment plants, and other things built to sustain life and/or support the economy. Few people include in their definitions of infrastructure such things as wildlands, wetlands, parks, scenic views and other natural features; but more should. These elements of our natural infrastructure are essential for sustaining life and/or supporting the economy. And, they too need to be invested in and maintained by the public. Both built infrastructure and natural infrastructure are parts of the system of "public works" needed to promote the commonwealth.

Employers, workers, retirees and children benefit when public investment in infrastructure is adequate. In many cases, existing or restored natural systems can provide public infrastructure services at a fraction of the cost of built infrastructure. For example, in Littleton, New Hampshire, public land saved local residents over $3 million as a watershed protection agreement signed with the adjacent White Mountain National Forest will enable the town to comply with requirements of the Safe Drinking Water Act without building a costly central water filtration system.

Federal Government Has Been Key in Financing Infrastructure

Historically, the federal government has played a key role in coordinating and financing infrastructure investments in highways, water supplies, wastewater treatment facilities and other public works. In part, this was done by setting infrastructure standards, and helping to define public purposes (needs) for infrastructure.

Improving the nation's rural highway system illustrates the role the federal government can play in coordinating and financing infrastructure. The 1956 Rural Post Roads Act authorized federal grants to pay for up to half the costs of constructing rural (local) roads used to deliver the nation's mail. This Act set out broad principles that federal financing should be apportioned to eligible infrastructure projects.

- Federal government should bear a large share of the development costs, but the ownership, management and maintenance should remain with state and local governments. (Partnerships with private and non-profit organizations would be desirable.)
- Federal spending should be authorized for multi-year programs in order to support multi-year construction projects.
- Federal criteria should be established to determine eligibility for federal financial aid.
- Federal financial aid should be apportioned based on need factors such as area, population, relative scarcity, urgency, national interest.

Until 1972, the federal government did not set water quality as an infrastructure issue, and left responsibility for controlling water pollution almost exclusively in the hands of state and local governments. However, in 1972 Congress realized that relying solely on states and localities to set and enforce water quality standards was allowing unacceptable degradation of the nation's waterways. Recognizing water as a public good, the federal government implemented a broad infrastructure approach to achieve the newly adopted goal of fishable and swimmable waters nationwide.

II. Financing and Coordinating Investments in the Northern Forest: A Proposed Model

The Northern Forest Investment Board

A new, flexible model for financing public land protection and other public works in the Northern Forest is proposed. It is based on the enabling legislation of the Northern Forest Investment model that has been used with great success in Vermont for a number of years.

In essence, the proposed model would create a public board that would oversee the allocation of public funds. The funds would be used to finance any built or natural infrastructure, on a willing-seller basis, that would further the public goals expressed in the enabling legislation. The infrastructure could range from purchase of easements in one area to public land acquisition and protection in another. It would be up to landowners, citizens, and organizations to demonstrate that their project was a public investment appropriate to the stated public goals.

This model can help inspire, guide and coordinate forest-related public investments across the region for several reasons:

1) A regional decision-making body will help move the region closer to achieving some of its generally accepted goals, particularly those expressed in the findings of the NFLC.
2) Presumably, project funding would be contingent on consistency with state and local goals so that the funding would serve as an incentive for coordinated planning across the region.
3) Land acquisition and conservation methods may become more acceptable if and when they are voluntarily and successfully used in the region.

Maine Timber Harvest Rising, Employment Falling

Projected Change in U.S. Timber Cutting and Timber Jobs Over Next 50 Years

<table>
<thead>
<tr>
<th>Year</th>
<th>Timber Cutting</th>
<th>Timber Industry Jobs</th>
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<tbody>
<tr>
<td>2023</td>
<td>9.2% increase</td>
<td>11.8% increase</td>
</tr>
<tr>
<td>2024</td>
<td>10.8% increase</td>
<td>13.4% increase</td>
</tr>
<tr>
<td>2025</td>
<td>12.4% increase</td>
<td>15.0% increase</td>
</tr>
<tr>
<td>2026</td>
<td>14.0% increase</td>
<td>16.6% increase</td>
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<td>2027</td>
<td>15.6% increase</td>
<td>18.2% increase</td>
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Change in Total Timber Cut and Total Timber Industry Employment, Maine (1960 to 1994)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Timber Cut (Cords X 1,000)</th>
<th>Total Timber Industry Employment (Employees X 10,000)</th>
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<tbody>
<tr>
<td>1960</td>
<td>7.2</td>
<td>6.2</td>
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<tr>
<td>1965</td>
<td>7.6</td>
<td>6.4</td>
</tr>
<tr>
<td>1970</td>
<td>8.0</td>
<td>6.6</td>
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<tr>
<td>1975</td>
<td>8.4</td>
<td>6.8</td>
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<tr>
<td>1980</td>
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<tr>
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<td>9.2</td>
<td>7.2</td>
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<tr>
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<td>9.6</td>
<td>7.4</td>
</tr>
<tr>
<td>1994</td>
<td>10.0</td>
<td>7.6</td>
</tr>
</tbody>
</table>
Over time, public acquisition may not seem as threatening.

4) This model will encourage various and Conservation Board program has a more limited focus than the proposed Northern Forest Investment Board would have, both involve willing-seller land conservation programs.

The Vermont Housing and Conservation Board Experience

In 1987, the Vermont Legislature established the Vermont Housing and Conservation Board (VHCB) for the purposes of "creating affordable housing for Vermonters, and conserving and protecting Vermont's agricultural land, historic properties, important natural areas and recreation lands." The Board's primary responsibility is to provide grants or loans to eligible applicants for projects that will meet these dual purposes. 

The VHCB plays a non-regulatory role, acting as an independent instrument of the state, directly and fully accountable to the legislature and the people of the state. Unlike a typical government agency, the Board can act quickly and creatively, and is relatively free from political pressure. The Board is made up of nine members—four ex-officio heads of state agencies and five citizens appointed by the governor.

The VHCB model creates opportunities and incentives for public agencies, private organizations and private landowners to work as partners on projects that promote the state's dual public goals. The non-profit partners greatly expand VHCB's ability to create customized and unique programs for affordable housing and conservation land. The private partners identified worthwhile projects, coordinate directly with landowners and local officials, pull together necessary financing, and provide for management and stewardship of the project in the future. The result is a customized project that has the trust and support of local residents.

The VHCB model takes full advantage of the speed and flexibility possessed by non-profit organizations. It enables Vermont to avoid the delays typically associated with federal and state government land acquisition programs. Speed in processing acquisitions helps to keep costs low and enables the Board to purchase land for conservation before it is sold to another party.

One concern with the proposed public investment model may be that owners will be reluctant to sell some or all of their interests in forest land to the government. When the VHCB program began, many farmers were skeptical of participation. However, the board is now swamped with applications, many of which are from farmers who cautiously watched their neighbors before they decided to participate.

Federal Legislation

Federal legislation may provide the best means of putting this regional financing model in place. Enacting federal legislation to create a new model for cooperative investment would communicate the federal government's wish to be a partner in protecting forested regions and avoiding crises like the one recently experienced in the Pacific Northwest. If successful, the Northern Forest's model could be adapted to fit other regions of the nation.

Public Purposes—Not Lines on a Map—Would Guide Investments

If the legislation clearly describes the public purposes that it aims to achieve, then there would be no need to force the region's public investments into rigid, pre-set molds, green lines, or official National Forest or National Park purchase boundaries. The common public purposes, not lines on a map, would provide the targets. The public purposes might include:

- promoting ecological sustainability and biodiversity;
- promoting locally and regionally owned, value-added manufacturing;
- plugging leaks in local and regional economies;
- promoting local, sustainable forestry and agriculture; and
- restoring human and natural connections.

The flexibility inherent in this approach would allow the region to create a well-balanced mix of public lands owned by local, state and/or federal governments, as well as private, non-profit conservation organizations. The mix in any one area could be adapted to fit the unique circumstances of that area as determined by the area local governments.

Conserving Large Blocks of Forest Land

A concern with the proposed model is that its voluntary nature would lead to scattered projects and the cumulative results would not be geographically coherent. Similarly, VHCB members were worried that their farmland program would protect many scattered small farms which would not provide an adequate base within any geographic area for a profitable agricultural industry. However, after almost ten years, because of priorities set by the board and the efforts of nonprofits to achieve the same goals, many small farm lands have been protected. What seemed improbable five years ago has quietly happened, piece by piece, deal by deal.

The VHCB has been able to link individual parcels together by giving greater priority to funding projects that are part of a larger whole, projects that will link or expand on already protected land, and projects located in areas designated for protection by local or state plans. If a similar investment model were created for the Northern Forest region, it is likely that large blocks of public lands could be pieced together spanning town, county, and state boundaries.

Preserving isolated pockets of wild-land is not enough. To gain the full ecological and economic benefits of wildlands, they need to be surrounded by compatible land uses and connected by corridors of undeveloped land. "Working" forest land, managed appropriately for timber production, is one of the most compatible adjacent land uses and can help to connect the separate islands of wildland. For this reason, public investments in working forest land should be part of the region's public land investment strategy.

Regional Citizens' Board Could Administer Funds

The Northern Forest Investment Board could be set up to oversee the administration and distribution of federal funds. The kind of membership could be similar in nature to the Northern Forest Lands Council with representatives from federal and state governments, the scientific community, industry, conservation organizations, municipal officials, and the general public.

A primary responsibility of the Northern Forest Investment Board would be deciding on requests for funding to implement actions aimed at achieving the public purposes set forth in the federal statute. The regional board, like Vermont's Housing and Conservation Board, could establish procedures for applicants and could set priorities for awarding grants and loans. The Investment Board could also oversee a pool of federal/state funds set aside for "quick" purchases of forest land that are critically important, as defined by criteria set by state and local governments.

Applicants

Rather than providing additional public land through top-down federal actions, the Northern Forest Investment model would provide some funds and a process for guiding state and local investments in public land across the region. Essentially anyone-state agencies, town officials, local conservation groups, business people, individual landowners—could apply for funding.
The residents of the Northern Forest region and rest of the nation should be involved every step of the way. If nothing else, the public investment model created for the region must be democratic. It must inspire voluntary local actions that serve the best interests of the local and regional community. Ultimately, all decisions should involve a well-informed citizenry.

Footnotes
1 Redden and Rosenello Research and Communications, 1996.
3 10 V.S.A. Section 302.
The Northern Forest Forum

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Blue Mountain Lake/Utowana Lake: A deal for over 2,000 acres of valuable shoreline lands and islands is currently in the works for Blue Mountain Lake and Utowana Lake (two lakes on the Eckford Chain) in the town of Indian Lake, the hamlet of Blue Mountain Lake. The land is owned by the Hochschild family, family patriarch Harold Hochschild chaired the New York State Temporary Study Commission back in the 1960s, a body which recommended the creation of the

Upper Raquette River: Niagara Mohawk Company is currently in negotiations with New York State in regards to the Company's desire to dispose of all its non-essential land holdings in the Adirondacks. This process has been going on for much of the 1990s. Niagara Mohawk has already sold lands along the Upper Hudson and Saccandaga Rivers in the southeast Adirondacks. On the Upper Raquette River, the company is looking to sell over 12,000 acres along the Raquette River down to the State. The State is considering purchase of roughly 10,000 acres in easements and 2,000 acres in fee for the Forest Preserve. A forest land management company is looking to buy the timber rights on the 10,000 acres.

The Upper Raquette flows through a series of dams and reservoirs. The lands in question border the Carry Falls, Stark, Blake, Rainbow and Five Falls reservoirs. As part of the deal, Niagara Mohawk is also looking to sell either outright for the Forest Preserve or a conservation easement, where the timber rights would be transferred to another party, the 4,500-acre Deep Creek Flow in Pierfield mentioned above.

The Upper Raquette projects have local support in the Town of Colton, though the Town of Paradoxville has not yet stated a position, where the lands are located. A local, ad hoc grassroots group, the Friends of the Raquette River, has formed to work for state protection through purchase of fee title and conservation easements. Niagara Mohawk is currently in FERC relicensing negotiations, which should improve the ecology of the river. The Niagara Mohawk lands total 16,500 acres and have an estimated value of $4 million. This project is eligible for EPF or Bond Act funding.

Blue Mountain Lake/Utowana Lake: A deal for over 2,000 acres of valuable shoreline lands and islands is currently in the works for Blue Mountain Lake and Utowana Lake (two lakes on the Eckford Chain) in the town of Indian Lake, the hamlet of Blue Mountain Lake. The land is owned by the Hochschild family, family patriarch Harold Hochschild chaired the New York State Temporary Study Commission back in the 1960s, a body which recommended the creation of the
Adirondack Park Agency (APA). Today, the family is looking to sell over 500 acres for Forest Preserve on Blue Mountain Lake. This includes a network of more than a dozen islands and several hundred acres of the near shore of the lake that adjoins the Sargent Ponds Wild Forest. Easements would also be given over several other islands on the western side of the lake.

On Utowana Lake, the family is looking to sell a 1,500- to 2,000-acre conservation easement over much of the lake’s watershed. The total sale is a bargain basement price and much of the money from the sale would be used to endow an ecological stewardship program at Paul Smiths College, a summer position to monitor water quality at the lakes, and recreational use of the islands, several of which are extremely sensitive. The Hochschuld family currently allows public camping on one of the islands, heavy public use of other islands as swimming areas, and have long allowed public hiking to Castle Rock, a peak above Blue Mountain Lake.

This project has been approved the Indian Lake Town Board and is the first project to be approved by the Region 5 Open Space Advisory Committee. This project would be eligible for either EPF or Bond Act funding.

Little Tupper Lake: As described in the last issue of The Northern Forest Forum, the Whitney's, owners of 51,000 acres in the central Adirondacks, have submitted a development application to the APA for a 15,000-acre subdivision surrounding Little Tupper Lake. While the Whitenys are pushing ahead with the subdivision, they're also negotiating with Governor Pataki's staff to sell the property to the State for addition into the Forest Preserve. The two sides are far apart on price; the Whitneys claim the tract is worth $30 million, many others contend it's worth $400 per acre, $9 million. In 1991, an independent appraisal estimated that the entire 51,000-acre Whitney Estate was worth $25 million, or $500 per acre. The Whitneys are now claiming Little Tupper Lake is worth $100 million.

Little Tupper Lake is an important ecological area with extensive wetlands and nine other lakes on the tract. Many of these lakes are linked by navigable streams. Little Tupper Lake is also an important link in historic canoe routes through the central Adirondacks.

Purchase of Little Tupper Lake would be eligible for the EPF or Bond Act. The Whitney tract is an exempt property under the EPF law, so no local approval (veto) is necessary. The Whitenys are playing a high-stakes game with this land. They're threatening development and taking an aggressive, belligerent approach against the APA, which is reviewing the project. For now, a successful state purchase is squarely in the hands of Governor Pataki.

Domtar Lands: Domtar Specialty Papers, Inc. has long been interested in selling a blanket conservation easement with full recreational access over its property in northern Clinton County. To date, the State has not had the money. Domtar is a Canadian-based company, with several mills just north of the border. Domtar has recently implemented a sustainable forestry program on its New York lands.

The Domtar lands have few special features—no undeveloped shorelines, wild rivers, or rare ecological areas—but they are interesting in protecting open space in some of the best recreation areas in the Adirondacks and providing recreational opportunities in an area where there are limited public lands. The conservation easement project has the support of the towns of Saranac, Dannemora, and Ellenburg, where the property is located, yet do not have support at the Region 5 Open Space Advisory Committee level. At 105,000 acres, this easement would cost somewhere in the neighborhood of $10-15 million. This project would need EPF and federal funding from the Forest Legacy Program.

International Paper Company Lake: International Paper Company has announced its intention to sell the 26,000 acres of the Lake George Preserve, a public access point/camping area on the river. While much of the river corridor is privately owned, recent legal decisions have opened rivers across New York to public use. This tract would be a significant benefit for increasing recreational access to the St. Regis, one of the grandest Adirondack rivers.

Several small projects are also underway with either the DEC or third parties in southern Lake Champlain, including joint work with parties in Vermont on the Poutney River. Several small projects to protect shoreline and watershed are also in the works on Lake George. These would all be eligible for either EPF or Bond Act funding.

Open Space Institute has been working with Niagara Mohawk to protect 2,000 acres along the Sacandaga River as it enters into Hudson at Hadley. OSI is hoping to complete this deal soon. This project has local support. The lands would be transferred to the State of New York.

Lastly, several other conservation easement projects in the western Adirondacks, ranging in size from 4,000 to 19,000 acres, are under discussion with both the DEC and third parties. These projects would all have to be funded either through the Working Forest protection list in the EPF or through Forest Legacy Program funding.

Let it Rain: There has been a drought in the Adirondack Park for land acquisition. Many opportunities have been missed because the State of New York did not have funds for land protection. Now, the State has funding, yet the commitment of the DEC and State leaders to purchase land is uncertain. Clearly, many landowners, as enumerated above, have the desire to sell land to the State so that it will be protected in perpetuity. While the New York environmental community will continue to push for land acquisition, the next few months and years are pivotal times for the Adirondack Park.

Opportunities need to be seized and not missed to protect the several hundred thousand acres currently at risk.

In Memoriam: Long time Adirondack Park activist Eleanor Webb of Blue Mountain Lake and Saranac Lake has passed away. Eleanor arrived in the Adirondacks in the early years of this century and was a staunch supporter of the need to protect the Adirondack Park, a prolific letter writer, and a fearless advocate in public forums. She is survived by her husband, Mony, her partner in the fight to protect the Adirondacks, who lives in Saranac Lake. Thank you, Eleanor, for a job well done.

Little Tupper Lake. Photo © Nancie Battaglia

Other important parcels are up for sale, but are not even on the DEC radar screen. One such parcel is the 5,000-acre Sylvan Falls tract in the northern Adirondacks. The Middle Branch of the St. Regis River flows through this and could be an important access point/camping area on the river. While much of the river corridor is privately owned, recent legal decisions have opened rivers across New York to public use. This tract would be a significant benefit for increasing recreational access to the St. Regis, one of the grandest Adirondack rivers.

Other Projects: Champion International owns over 135,000 acres in the Adirondack Park, lands through which various branches of the Grasse and Oswegatchie rivers flow. For years, Champion has been interested in selling some kind of recreational access to these rivers and the river corridors, but nothing has been accomplished. Discussions are beginning again for a purchase of fee and conservation easements over some parts of the Champion holdings.

Other important parcels are up for sale, but are not even on the DEC radar screen. One such parcel is the 5,000-acre Sylvan Falls tract in the northern Adirondacks. The Middle Branch of the St. Regis River flows through this and could be an important access point/camping area on the river. While much of the river corridor is privately owned, recent legal decisions have opened rivers across New York to public use. This tract would be a significant benefit for increasing recreational access to the St. Regis, one of the grandest Adirondack rivers.

Other Projects: Champion International owns over 135,000 acres in the Adirondack Park, lands through which various branches of the Grasse and Oswegatchie rivers flow. For years, Champion has been interested in selling some kind of recreational access to these rivers and the river corridors, but nothing has been accomplished. Discussions are beginning again for a purchase of fee and conservation easements over some parts of the Champion holdings.
Study Evaluates Potential Wolf Habitat & Travel Corridors in the Northeastern US

Editor’s Note: Below we reprint the complete text of the “Conclusions and Recommendations” section from “An assessment of potential habitat for eastern timber wolves in the northeastern United States and connectivity with occupied habitat in southeastern Canada” prepared by Dr. Daniel J. Harrison and Theodore G. Chapin at the Department of Wildlife Ecology of the University of Maine. The assessment was prepared for the Wildlife Conservation Society. It is preceded by a brief summary, prepared by Kathleen H. Fitzgerald, of the report.

In 1978 a recovery plan for the eastern timber wolf was published by Bailey et al. for Fish and Wildlife Service, and was revised in 1992. The primary goal identified in the revised Eastern Timber Wolf Recovery Plan was “to maintain and reestablish viable populations of the eastern timber wolf in as much of its former range as possible.”

The recovery plan identified 34,287 km² in New York and 33,751 km² in Maine as potential habitat for wolves; however, little was known about the potential habitat in the northeastern US or connectivity of habitat with occupied habitat in southeastern Canada. Thus, more research was needed to determine the likelihood of wolves to disperse from extant populations in northeastern US to southwestern Canada. Wolves are capable of colonizing distant habitats, even hundreds of kilometers from a population source, if the source population is large, suitable habitat remains, and physical or habitat barriers are minimal.

Harrison and Chapin were interested in quantifying and mapping the extent, distribution, and connectivity of habitat in the northeastern US that is in forested land cover, and below thresholds of .70 km² roads/km² and 4 humans/km².

The shortest straight-line distance from potential core habitat in Maine to the nearest occupied wolf range in Quebec is approximately 70 km; the distance to the long-established wolf population in Laurentian Provincial Park is approximately 140 km. The distance from potential core habitat in New York to occupied wolf range in southern Ontario is approximately 230 km. Thus, potential habitat for wolves in the northeastern US is well within dispersal capability of extant wolf populations, if suitable dispersal corridors exist. Their analysis found contiguous potential habitat throughout northern, western, and eastern Maine, and extends well into New Hampshire, and could likely support a minimum of 480 wolves. The analysis did not include New Brunswick, which could provide additional contiguous habitat.

The Adirondack Park region is also a potential core habitat for wolves. However, the St. Lawrence River, Lake Champlain and expansive areas not meeting core criteria (too many roads, too little forest), make the potential habitat of the Adirondacks isolated. New York lacks a significant moose population, thus potential population densities of wolves there may be lower than in other regions of eastern North America where populations of moose, white-tailed deer and beaver occur sympatrically.

Due to the north-south orientation of Lake Champlain and Lake George, combined with limited and widely scattered potential core habitat and dispersal habitat, Vermont may not support significant numbers of resident wolves nor serve as an effective dispersal corridor linking a potential wolf population in Maine and New Hampshire with a potential population in New York.

Two potential corridors may link wolf populations occurring north of the St. Lawrence River in Quebec with potential habitat in Maine and New Hampshire. One potential corridor occurs upstream from the St. Lawrence city and another occurs near the mouth of the St. Lawrence River, downstream from Quebec City. A verified wolf and a second large wolf-like canid recently killed in Maine may have represented natural migration from the Laurentides region of Quebec. (Please refer to the map.)


Conclusions and Recommendations

Wildlife biologists interested in the potential for reestablishing wolves in the northeastern US could benefit from collaboration and exchange of information with scientists conducting ongoing research on wolves in southern Quebec. Information on population density and movement patterns of wolves in southern Quebec may provide information useful for estimating potential numbers of wolves that might disperse to Maine and New Hampshire. Some dispersing coyotes in Maine successfully crossed a large river (Harrison 1992), and one dispersing juvenile swam to a coastal island (S. Glass and D. Harrison, Univ. Maine, unpublished data), suggesting that the St. Lawrence River may serve as a filter rather than a barrier to wolf dispersal. However, the maintenance of a very active shipping channel and the unconsolidated nature of ice in the St. Lawrence River during most of the winter, coupled with the presence of dense human development and extensive waterway channels, may preclude successful dispersal of a significant number of wolves from Quebec to Maine and New Hampshire.

Given the relative isolation of potential wolf habitat in New York, natural recolonization of potential habitat is unlikely. Further, the success of potential reintroduction efforts for wolves in the Adirondack region of New York would be uncertain because the estimated suitable habitat is less than the area officially considered to be required to support a minimum population of wolves (USFWS 1992).

If numbers of dispersing wolves moving from extant populations to potential habitats are insufficient to provide opportunities for dispersers to pair with conspecifics of the opposite sex, then substantial hybridization between displacing wolves and resident coyotes may occur. Roy et al. (1994) present compelling genetic evidence suggesting that substantial hybridization occurs between coyotes and wolves following a northward expansion of wolves in northeastern Canada. Thus, strategies for promoting slow natural recolonization of wolves to the northeastern US should consider potential genetic consequences of hybridization with coyotes.

Although large contiguous areas in Maine and New Hampshire meet the criteria established in the eastern timber wolf recovery plan (USFWS 1992) to define potentially suitable habitat, information on public attitudes towards wolves in the northeastern US is anecdotal. Our habitat criteria are based on factors that influence the extent of human contact with wolves, and presumably, the potential for human induced mortality of wolves (Fuller et al. 1992). Thus, our analyses assume that human attitudes towards wolves in the northeastern US are similar to attitudes of humans towards wolves in the Lake Superior basin. Wolves are not intolerant of humans; however, some humans are intolerant of wolves. For example, wolves persist despite high human populations in some regions of Europe and Asia where human attitudes and cultures differ significantly from the US (McNamee 1997). Thus, prior to establishing specific management objectives for wolf restoration, significant public education (Mech 1995) and involvement would be required.

References

Responsive Management, a survey research firm specializing in natural resource issues, conducted a survey from October 19—November 11,1996 for Defenders of Wildlife on public opinion and attitudes toward Eastern Timber Wolf reintroduction in New York’s Adirondack State Park. As with any survey, respondents were opposed to the issue of focus claim the survey was rigged or biased. Yet Responsive Management is an independent firm and the survey questions were designed by four focus groups, three of them composed of Adirondack residents. Residents of New York, the Adirondacks and New England were asked over 80 questions relating to wildlife, wolves, and habitat over the phone.

Following are some highlights of the survey:

**Question:** How many people are seriously injured or killed by wolves each year in North America?

**Response:** Adirondack respondents: 50% did not know, 29% none, 13% said 5 people.

**New York respondents:** 52% did not know, 18% none, 13% over ten people.

**New England respondents:** 41% did not know, 31% none, 16% 1 to 5 people.

**Question:** Is wilderness where wolves live inherently better than wilderness without wolves living there?

**Response:** Adirondack respondents: 30% strongly agreed, 28% moderately agreed, 20% neither agreed nor disagreed, or did not know, 13% moderately disagreed, 9% strongly disagreed.

**New York respondents:** 40% strongly agreed, 30% moderately agreed, 14% neither agreed nor disagreed, or did not know, 9% moderately disagreed, 7% strongly disagreed.

**New England respondents:** 38% strongly agreed, 25% moderately agreed, 22% neither agreed nor disagreed, or did not know, 9% moderately disagreed, 6% strongly disagreed.

**Question:** Do you support or oppose the “forever wild” clause in the Constitution?

**Response:** Adirondack respondents: 51% strongly supported, 25% moderately supported, 8% neither supported nor opposed or did not know, 7% moderately opposed, 3% strongly opposed.

**New York respondents:** 65% strongly supported, 27% moderately supported, 3% neither supported nor opposed or did not know, 7% moderately opposed, 6% strongly opposed.

**New England respondents:** 65% strongly supported, 24% moderately supported, 8% neither supported nor opposed or did not know, 7% moderately opposed, 3% strongly opposed.

**Question:** Would you support or oppose reintroducing the wolf to Adirondack Park?

**Response:** Adirondack respondents: 34% strongly supported, 42% moderately supported, 5% neither supported nor opposed or did not know, 8% moderately opposed, 11% strongly opposed.

**New York respondents:** 38% strongly supported, 42% moderately supported, 10% neither supported nor opposed or did not know, 6% moderately opposed, 4% strongly opposed.

**New England respondents:** 43% strongly supported, 42% moderately supported, 10% neither supported nor opposed or did not know, 6% moderately opposed, 5% strongly opposed.

**Question:** Do you support wolf reintroduction?

**Response:** Adirondack respondents: 41% because wolves are part of the ecosystem, 21% because wolves were here before us, 16% to save wolves from extinction.

**New York respondents:** 36% because wolves are part of the ecosystem, 20% to save the wolf from extinction.

**New England respondents:** 40% because wolves are part of the ecosystem, 24% to save the wolf from extinction, 21% because wolves were here before us.

**Question:** Do you support or oppose reintroduction of wolves to Adirondak Park?

**Response:** Adirondack respondents: 42% strongly supported, 34% moderately supported, 7% neither supported nor opposed or did not know, 6% moderately opposed, 4% strongly opposed.

**New York respondents:** 36% because wolves are part of the ecosystem, 20% to save wolves from extinction.

**New England respondents:** 38% because wolves are part of the ecosystem, 24% to save the wolf from extinction, 21% because wolves were here before us.

**Question:** Do you support or oppose wolf reintroduction?

**Response:** Adirondack respondents: 36% wolves are dangerous to humans, 16% wolves are dangerous to livestock, 7% there is no need for wolves.

**New York respondents:** 51% wolves are dangerous to humans, 9% there is no need for wolves, 8% did not know.

**New England respondents:** 25% wolves are dangerous to humans, 17% wolves would kill other wildlife, 17% the Park has changed too much.

**Question:** Why do you support wolf reintroduction?

**Response:** Adirondack respondents: 55% strongly supported, 31% moderately supported, 9% neither supported nor opposed or did not know, 3% moderately opposed, 3% strongly opposed.

**New York respondents:** 36% because wolves are part of the ecosystem, 20% to save wolves from extinction.

**New England respondents:** 40% because wolves are part of the ecosystem, 24% to save the wolf from extinction, 21% because wolves were here before us.

**Question:** Why do you oppose wolf reintroduction?

**Response:** Adirondack respondents: 57% wolves would be more supportive, 36% would remain the same, 3% would be less supportive, 4% did not know.

**New York respondents:** 62% would be more supportive, 29% would remain the same, 3% would be less supportive, 6% did not know.

**New England respondents:** 65% would be more supportive, 28% would remain the same, 3% would be less supportive, 5% did not know.

**Participants who thought wolf reintroduction would not work were asked why.** The top three reasons given by all three groups were because wolves would get shot, the Park ecology cannot support wolves, and wolves would attack people.

**Question:** After being interviewed, participants were asked once again whether they support or oppose reintroduction of wolves to Adirondack Park.

**Response:** Adirondack respondents: 42% strongly supported, 34% moderately supported, 7% neither supported nor opposed or did not know, 6% moderately opposed, 4% strongly opposed.

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Conservationists Protect Lynx in Court

Politics of Endangered Species at Issue

Thirteen conservation group plaintiffs and two individuals—headed by Defenders of Wildlife, Biodiversity Legal Foundation, and Northwest Ecosystem Alliance, and including RESTORE: The North Woods—learned on March 28 that a federal district court judge has ruled against the Department of the Interior (DOI) and the U.S. Fish and Wildlife Service (FWS) for failing to adequately consider all evidence indicating that the lynx should be listed under the Endangered Species Act (ESA).

In the 38-page opinion by Judge Gladys Kessler, the failure to list the lynx was found inconsistent with scientific findings made by the FWS own field biologists. The lynx, a brownish-gray cat usually weighing less than 30 pounds and distinguished by its long black ear tufts, once ranged throughout the United States but its numbers have dwindled to only several hundred scattered individuals, mostly in Maine, Montana, Idaho, and Washington.

One of the biggest threats to the lynx comes from unsustainable logging and road building in Northern Forests. The lynx, a predator high in the food chain, needs undisturbed forest habitat in order to survive. Conservationists have argued for several years that habitat destruction, trapping, hounding, and loss of prey base could soon drive the lynx to extinction.

FWS biologists have spent years researching the lynx and its habitat. Their research indicates that the U.S. lynx population is on the brink of extinction and is being splintered into smaller, isolated populations that cannot connect with each other due to continued clearcutting and road building through forest lands. Despite the recommendation of its own field offices that the lynx be listed, the FWS, Washington, D.C. office decided not to list the species in December 1994. The court noted many legal and factual inconsistencies made by the D.C. office in ruling against the federal government. The FWS now has 60 days to reevaluate its decision not to list the lynx based upon an administrative record demonstrating the many threats to the species.

Several states have recognized that the lynx needs protection, including Maine, New Hampshire, Vermont, Massachusetts, Pennsylvania, New York, Michigan, Wisconsin, Minnesota, Colorado, Wyoming, Washington and Oregon. However, none of these states ensure the level of protection provided by the federal ESA.

For further information, contact: RESTORE: The North Woods, POB 1099, Concord, MA 01742. Tel. 508-287-0320.

Wolf At The Door
An Ecological Musical Comedy

The creators of a completely unique, powerful and humor-filled brand of theater are bringing to the Northeast this Spring a two-person version of their latest ecological musical comedy, The Wolf at the Door. The show composed of a series of vignettes, comments and songs, the musical is bringing to the stage their struggle to make peace with the wild. Such a heady task is rarely the subject of comedy, but in the spirit and their economies with the realities of the natural world. The use of comedy and song to delineate this task makes it seem not only possible but fun. At a time when wolves are knocking at the door of the Northeast, this riveting show promises to inspire the people of this region to welcome wolves home.

The Wolf at the Door Performance Schedule


For information or advance tickets call RESTORE at 508-287-0320 or Patagonia (MA) 617-424-1776, (ME) 207-865-0506, (NY) 212-343-1776

The Native Forest Network Takes the Show on the Road

The Native Forest Network (NFN) is bringing its roadshow "Vermont's Forests: Past, Present & A Vision for the Future" to towns, featuring music by three different musicians and bands and feature presentations by local forest activists and historians and video and slide presentations on the history of logging in Vermont and New England.

All shows are free and open to the public. Each roadshow engagement will be accompanied by an organizational meeting to bring together local people who wish to organize their community. For further info on the roadshow, please contact Anne or Phil at (802) 863-0571.

The locations are:
- April 11: Lyndonville, Lyndon State Coll., Student Center, 11 AM-1 PM. Contact Trish Seadale, 526-6344.
- April 12: Island Pond, VT Leadership Center, 6:30-8:30 PM. 1 mi. south of East Charleston on Ten Mile Square Rd. Contact VT Leadership Center, 723-6551.
- April 13: Glover, Glover Town Hall. 6:30 PM. Contact: Alexis Smith, 454-1758.
- April 19: Haverhill, NH, Dartmouth College, 11 AM-12:30 PM. Contact: John Houtepen, (603) 643-0185.
- April 21: Dover, Food for Thought, Rue 100, 7 PM. Contact: Stacy Heuer, 888-2369.
- April 22: Johnson, Johnson State College, 7 PM. Contact: Pot. 635-1044.
- April 23: Montville, Apple Tree Health Food Store (next to House of Pizza), 7 PM. Contact: Stacy Heuer, 888-2369.
- April 26: Middlebury, Middlebury College, Dana Auditorium, 10:30 PM. Contact: Dave Sterrett, 643-3806.
- April 29: Burlington, UVM, Billings College Theater, 7:30 PM.

Native Forest Network Presents 4th Annual Forest Activist Training Week

The Native Forest Network continues its yearly spring tradition this year by hosting the fourth annual Forest Activist Training Week. Join us in the beautiful Green Mountains of Vermont's rural Northeast Kingdom for this exciting week of hands-on learning held June 8th-15th at the Wheelock Farm in Greensboro Bend. For more information and a registration packet call the NFN at (802) 863-0571 or write NFN, P.O. Box 57, Burlington, VT 05402.
Patient Money: The Economics of Low-Impact Forestry

by Mitch Lansky

I am going to make an economic case for investing in low-impact forestry. I suspect, however, that my "proof" of the benefits of low-impact forestry (LIF) will not be so compelling as to cause all engaged in conventional forest practices to immediately switch over. The reason is not that my analysis is wildly wrong, but that landowners and contractors do not calculate their costs and benefits within the same perspective as LIF.

Low-Impact Forestry Economic Perspective

The LIF economic perspective tries to:

- Incorporate long-term, rather than just short-term costs and benefits. LIF looks at costs and benefits for generations. What maximizes returns in the short term may do so at the expense of the long term.
- Differentiate between value as true income (interest on an investment) and what is merely biological or social capital depletion. Maximizing returns in ways that deplete residual volume and quality, nutrient capital or capital depletion.

The table below attempts to differentiate the costs and benefits of LIF for different perspectives.

| Degree of Vertical Integration: | Industrial landowners can justify "selling" wood, which could have become sawlogs, as pulpwood to their own mills. This is done to keep keep purchase prices for the mill low. Maximizing income for the woods division may not be as important as assuring a cheap, stable wood supply for the mill. |
| Location of headquarters: | It makes a difference if the landowner is absentee or lives on the land. Resident landowners are more apt to be more concerned over community costs that they will have to live with. |
| Location of timberlands in relation to markets and labor: | Distance from markets can affect stumpage, mill-delivered prices, and trucking by large factors. It also makes a difference if the labor is migratory or lives in the same community as the land. |

Part I: Economic Complexities

Landowner Objectives

Foresters tend to meet landowner objectives as a first priority, even if these objectives conflict with state or federal desires. Not all landowners share the LIF goals as their prime objectives. Foresters and landowner economic perspectives vary widely due to such factors as:

- Type of landowner: Public ownerships may have requirements for "multiple use." Contractor-owners may be more concerned with supplying wood to meet payments on equipment than for managing for the long term. Some small woodlot owners may value the land more highly as an aesthetic neighborhood buffer than as a major source of income.
- Size of ownership: Small landowners who want a steady income, for example, will not clearcut their property. They can neither justify the expense of investing in early-stand management (without subsidies) nor of waiting more than a lifetime for returns while paying taxes. Large landowners, in contrast, can manage in blocks and balance early-stand expenses with income from final cuts elsewhere.
- Type of forest: The intensity of the cut can range from a single-tree silvicultural clearcut, a commercial clearcut, an overstory removal, a patch cut, a large-diameter-limit cut, a shelterwood thinning, or a selection cut. Thinnings can be from above, below, across all diameter classes, or by the Q-line (which produces a "reverse J" curve in diameter classes). The same machine might be cost effective on one type of cut, but inappropriate on another. Horses may be good for low selection cuts, for example, but not so good for a whole-tree chipping operation.
- Market fluctuations: Market prices can vary widely over the years, and even within one year. Shortfalls, over-supplies, and events far away can all cause dramatic swings in prices.

Each one of these factors can vary so widely that combining them makes a mockery of any economic analysis done to three decimal points. Such variability defies an economist's ability to do comparisons with exactness. Multiply the range of variability and the analysis qualifies as an example of chaos. Such realities, however, have never stopped economists from doing their economic comparisons—so why should it stop me?

Part II: A Hypothetical Example

I am now going to illustrate the long-term economic impacts of two different strategies—one that tries to maximize short-term benefits for the landowner or contractor, and the other that tries to optimize

Low Impact Forestry Conference

May 3 in Ellsworth, Maine

"Exploring Opportunities for Low Impact Forestry in Hancock County," will seek to address the needs of small woodlot owners and to find ways to create more jobs while maintaining and improving the quality of the forest environment of Hancock County. There will be panel discussions and small workshops.

This daylong conference is sponsored by Hancock County Planning Commission, Maine Low Impact Forestry Project, Hancock County Soil & Water Conservation District, Maine Forest Service, University of Maine Cooperative Extension, Downeast RC&D, and Ellsworth Adult Education.

Registration is $20 (includes lunch). To register, or to receive more information, contact: Hancock County Planning Commission, RR4, Box 23, Ellsworth, ME 04605. Tel. 207-667-7131.
long-term benefits for the landowner, logger, and community. To be a fair
comparison, there can only be few vari-
able; and all else must be equal. Since
this model can not find the future in real-
ity, I’m going to make it all up (or, to be more
respectable, “model” it).1

The Model

We look, for example, at a hard-
wood stand (not particularly well
stocked) managed under two meth-
ods—high-grade harvest (HGH) and
low-impact harvest (LIH).2 The low-
grade harvest had to be delayed until
the stand was better stocked, but the
high-grade harvest could be done at
once. Also, the bulk of the early
li
mpact harvest had to be delayed until
the stand was better stocked, but the
future. Cutting cycles can range from
10 to 20 years, averaging around 15
years.

The central question of an econo-
mist to the low-impact landowner
might be, “How can you justify the cost
of removing small quantities of low-
value trees for decades?” Can the pres-
ent value of the higher-value cuts 40
or 50 years from now justify poor early
returns?” The central question from
someone who lives in the community to
the highgrader might be, “How can you
justify taking the value from your land
now, at the expense of the community
and future generations?”

Simplest Assumptions

To keep my analysis simple, I oper-
ate under assumptions that are some-
what abstract. I assume, for example, that
over the decades:

• ownership will not change;

• technology will not change;

• markets trends will not shift dramati-
cally;

• regulations and forest policy will con-
tinue to allow high grading and stand
damage;

• insect, disease, fire, wind, or air pollu-
tion will have no serious impact on yields;

• all the things that happened in the last
80 years (depression, wars, social strife,
ecology) will somehow not happen in the
next 80 years;

• the only variables that differ are the
type of cut and the type of equip-
ment.

Time & Discounting

Eighty years would be a minimum
time for analysis because that is how
long it would take an intensively-man-
aged hardwood trees on a good site to
reach more valuable sizes. On less-
favorable sites it might not be until
more than 120 years. It might take a hundred years
more than that for the stand to have the full array of habitats to support old-
growth forests.

I stopped my analysis after 30
years, however, because the residual
highgraded stand was no longer worth
managing. A computer might simulate
the effect it would be a lot more time
before a contractor would want to cut it.
Cutting small diameter, low-value wood is not financially rewarding.

For investments that pay back over
time, we can compute discount future
costs and benefits to calculate what they are
worth today. Discounting has a certain
logic to it when one considers interest
on loans, the degree of risk (remember
junk bonds) or the opportunity cost of
not putting the same money into an
alternative investment, such as a
Certificate of Deposit. For long-term
investments that span generations, initial
investments in economic or natural
resources such as water, air, soil,
forests, or fisheries, discounting at
short-term rates leads to absurdities, if
not tragedies.

I use a well stocked forest valued at
$1000 to a future generation is worth
only $0.27 now. The higher the discount
rate, the lower the present value of a
future forest. This leads to a more short
term perspective because there is an
even lower opportunity cost in liquidat-
ing the forest and forgoing a future gen-
eration’s access to a well stocked forest.

Even when they use a lower dis-
count rate, foresters, if they plant at all,
plant fast-growing trees because the dis-
counted value of slow-growing trees is
close to zero. Indeed, even fast growing
tree plantations generally need some
form of subsidy.

Those who plant the trees do not
harvest them. Future generations might
not appreciate the plantations because of
their impacts on soil, the water table, or
biodiversity. An alternative to this
line of thinking is that an investment
that spans generations should be of ben-
et to future generations, rather than
some greedy inventor now. If a landowner is
concerned over future generations, he
will not plant even-aged monocultures to
follow his clearcuts. Rather, he will
avoid clearcutting in the first place.

When the discount rate is high
enough, the perverse logic of economics
dictates that the forest must be cut,
because the value of cutting is greater
than the discounted value of any possi-
bile future forest. At a high discount
rate, even the high yields obtained from
low-impact forestry decades into the
future are not sufficient to beat the ben-
fits of cutting heavily over the short
term. Trees just don’t grow fast enough.

These types of calculations do not
send a very pleasant message to our
children or grandchildren. We are say-
ing, in effect that consumption of
aquifers, old-growth, fisheries, or top-
soil now is better than availability of
these resources to future generations.

This is economics without a sense of
cultural continuity. How can one determine present
value of future forests? It depends on
what type of investment, for how long,
and for whose benefit. Investments for
the short-term for a single interest might
get a standard high rate. Investments with long-term social ben-
fits deserve a lower discount rate. In
some cases, the appropriate discount
rate might be the growth rate of the stand
plus a risk factor. In other cases, the
discount might be zero. These discount
rates are, after all, rates above inflation.

Not all investments over a century can
bear the inflation rate. If the forest is to
be sustainable, then it should be just as
valuable to the next generation as it is to
this generation, which means a zero dis-
count rate.

Income or Capital Depletion?

Overall, most 30 years of my model
the highgrade option removes more
wood than the low-impact option. A
proper evaluation, however, looks not at
the value of what is cut, but also at the
value of what is retained. Without such
an accounting, one runs the risk of
calling capital depletion “income.”

Removing more than what can be sus-
tained over time becomes a cost, because
it harms present and reduces future
yields and values.

The value of a property should
reflect a bare-land value and a timber
value. If the property is undersolded,
this is an invitation for speculation
to buy the land, cut the wood, and sell, while
what is left at a profit. Such actions are
not uncommon in the Maine woods.

For the first 30 or more years,
the low-impact approach is building value
into the residual stand. It is letting the
trees grow to reach their highest-paying
markets. This is why it is so essential
to avoid practices that lead to lower grades
and lower productivity. The landowner
might not have money in the bank, but she
does have real value on the stump.
She can cash in her (wood) chips later by
selling the land or the wood.

Difference in Yield

Extending the exercise out over
many decades, the forest cut by the
lower-impact system would have a
higher total volume (removal + residual)
yield for the following reasons:

• better stocking of healthy trees;

• more proper harvesting methods;

• less damage from insect or disease;

• less land area in trails and landings
mechanical operations might have
25%, low-impact might have around
10%);

• less damage to soil and residual trees
sloppy conventional logging can lead
to more than 15% of residual trees
being damaged enough to slow
growth or kill the trees with an
additional 30% damaged enough to
lower future timber values);

• less damage to regeneration;

• less loss to mortality due to shorter cut
cycles.

Difference in Value

The difference in value will be
more profound than the difference in
yield for the following reasons:

• Sawlogs/pulpwood mix: The LIH
puts more growth on sawlogs than
pulpwood. Stumpage values for hard-
wood sawlogs can be a multiple of that
for pulpwood. A survey done by the
Maine Forest Service in 1994 docu-
mented the large shift towards lower
value trees that can happen in just one
cut from contractor highgrading opera-
tions (Lansky 1996).

Table 1.—Typical hardwood stumpage prices in ME, 1994 (MFS)

<table>
<thead>
<tr>
<th>Product</th>
<th>White</th>
<th>Hard</th>
<th>Yellow</th>
<th>ash</th>
<th>maple</th>
<th>birch</th>
<th>oak</th>
<th>mixed</th>
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<tbody>
<tr>
<td>Veneer (MBF)</td>
<td>205</td>
<td>409</td>
<td>212</td>
<td>197</td>
<td>575</td>
<td>206</td>
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<tr>
<td>Sawlogs</td>
<td>18</td>
<td>103</td>
<td>95</td>
<td>263</td>
<td>90</td>
<td></td>
<td></td>
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<td>Palletwood</td>
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<tr>
<td>Boltwood (cord)</td>
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<td>45</td>
<td>48</td>
<td>33</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firewood</td>
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<td></td>
<td></td>
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<td>Pulpwood</td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Biomass</td>
<td>4</td>
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</tr>
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*Note—these are averages, the range can be great. For example, the high for
hard maple sawlogs is $600, the low is $20.*

Table 2.—Assumed percentages of sawtimber volume

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<td>A</td>
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<td>2</td>
</tr>
<tr>
<td>Sawlogs</td>
<td>3</td>
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<tr>
<td>High quality</td>
<td>40</td>
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<tr>
<td>Medium quality</td>
<td>15</td>
</tr>
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<td>Low quality</td>
<td>10</td>
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Table 3.—Typical sawtimber stumpage prices fromNH, 1984

<table>
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<th>Product class</th>
<th>White</th>
<th>Hard</th>
<th>Yellow</th>
<th>Red</th>
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<tr>
<td>Veneer</td>
<td>135</td>
<td>90</td>
<td>150</td>
<td>110</td>
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<tr>
<td>Sawtimber</td>
<td>105</td>
<td>85</td>
<td>125</td>
<td>100</td>
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<tr>
<td>High quality</td>
<td>105</td>
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<td>Medium quality</td>
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<tr>
<td>Low quality</td>
<td>75</td>
<td>100</td>
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\[\text{The Northern Forest Forum, Mid Season 1997.} \]
...Species mix: Low-impact forestry would put more growth on the highest value species. For sawlogs, this can make a major difference in value. (See Table 1) A sugar maple sawlog, for example, can be worth more than 2 times as much as a red maple sawlog. In one study, it was noted that the sawlog class and within the same species, stumpage values can vary widely depending on the grade. Well-managed forests can have mixes of log grades (given the same volume) that are much more valuable than poorly-managed forests. The most valuable grades have been increasing in real terms (above inflation) much faster than the lower grades, so this difference will increase over time. (See Tables 2 & 3)

Difference in Cost

Using standard accounting formulas I have concluded that it is more expensive to do a low-impact cut than a mechanized highgrade cut. I calculated that the cost for the contractor of owning, operating, maintaining one falling buck, two grapple-skidder operators, a crane, and a delimber (at half time), plus labor to cut 350 cords a week for 42 weeks is around $38 per cord. The cost per cord for our permanent trail system is three times as much as this. The trails are dispersed and narrow enough with a radio-controlled winch plus labor to cut 22.5 cords per week for 42 weeks is around $45. The major factor for higher costs of the low-impact system is labor, which is 60% of the cost, versus 25% of the cost of the mechanized system.

These costs would change over time. As the low-impact managed stand increased in average diameter and after the permanent-trail system is established, both the productivity of the logger and the value of the wood increases. As the average diameters decrease for the highgraded stand, productivity and value decrease. These numbers also do not reflect full cost accounting. The highgrading operation causes substantial damage to tree trunks and roots, but this damage is not contained in the cost per cord calculated by equipment manufacturers. The highgrade operation also can remove 25% of potential crop trees just to make trails and yards, not to mention cutting trees way before their prime. This, plus reduction in growth, means loss of future values and is a cost. By adding up the present value of future losses, it is possible to calculate the cost per cord of highgrading.

Because of the greater conventionally-calculated operating cost of the LSH system, landowners might take a lower stumpage rate to ensure the logger is adequately compensated. This analysis shows that such a reduction in stumpage is justified, even if one ignores all other forest values and concentrates only on timber values.

Community Values

But the forest has more values than just timber. It has values to the community as a source of jobs, recreation, aesthetics, clean water, pure air, wildlife, and more. For these other values, which may be greater than the timber values, the competition between the two systems is not even close.

John White, while doing a logging inspection or project, might appear as an unwanted cost, to a community it is a benefit. Money paid to local labor multiplies in the community more than money paid for machinery or the fuel to run it. Much of the money for machinery goes to out-of-state equipment manufacturers, banks, and oil companies. Money paid to labor leads to more family spending on food, entertainment, and other goods and services within the community, supporting more jobs.

Over time, low-impact approaches would create many more jobs than mechanized highgrade operations: • For the same amount of wood cut, the low-impact system would employ around three times as many loggers as the mechanized system. • The low-impact system would cut more wood of higher value. This would, over time, lead to higher stumpage returns for landowners, even factoring in the lower stumpage due to higher logging costs. • Local landowners would spend some of this extra money locally leading to even more community income multipliers. • The greater volume of lumber versus pulp could be a significant factor in increasing local value-added processing. Making pulp is very capital-intensive and creates fewer jobs per cord of wood than making lumber or making furniture.

Property values: Highgrading operations not only lower the value of the property on which it occurs, but can also have a shadow effect on abutting due to loss of key habitats. • View values: Highgraded stands are visually depressing for many people. Such sights send a message that the neighborhood doesn't matter and that the future doesn't matter. It is ironic that the most vocal defenders of liquidation cutting do so invoking the sanctity of 'property rights.' Their lack of concern for the rights of others property owners and the rights of the community does not help endear more people to that cause.

Recreation values: The visual appearance of a low-impact harvest is a plus. The trails are dispersed and narrow enough to be ideal for hiking, hunting, cross-country skiing or snowmobiling. These activities can lead to supplemental incomes to the landowner and others in the community.

Biological values: Low-impact forestry is not a substitute for wilderness, but it can help maintain many important habitats that would be lost to highgrading. • canoe closure: Low-impact forestry can help maintain the presence of relatively-closed canopy mature forests. Highgraded, understocked forests have lost that value. The large and trails of mechanized operations create gaps in the forest canopy. Low-impact trails are often narrow enough for canoe closure, and they are dispersed much more and are not possible for mechanical harvesters.

• tree size: Big trees, both alive and dead, are important habitats to many species. Big trees are key to high values for sawlogs and veneer. Thinning operating from the short-term perspective that leads to high-grade logging can hardly afford to wait for trees to grow from five inches to two feet in diameter.

• water quality: The larger roads, trails, and yards plus the more open canopies and greater cutting of forest soils from the mechanized HGH can lead to more sedimentation of streams and lower water quality.

Dollars Per Tree

Relative Values of two-log hard maple trees, by butt-log grade.


USGS Plans to Cut Critical Funding for Acid Rain Monitoring Stations

The US Geological Survey (USGS) announced on March 18 that it would cut funding for acid rain research stations in New York and Vermont. The funding cuts are likely to result in the closing of five of New York’s eight monitoring stations and both of Vermont’s monitoring stations. The stations are part of a 200 station network of acid rain testing facilities run by the National Acid Deposition Program/National Trends Network (NADP). The stations provide scientific information on the link between pollution and acid rain. The funding cuts would eliminate monitoring programs in areas that are suffering the worst acid rain damage in the nation. Proposed cuts of more than $1.6 million would leave $63,000 for the 10 or so USGS-funded stations that would remain open.

For more information, contact John Sheehan at the Adirondack Council (518) 432-1770.
Investing in Maine Politics

by Jym St. Pierre

"In few American states are the issues of government more openly or completely in the hands of a few leaders of economic interest groups than in Maine... Thus the abundance of timber and water power in Maine has indirectly created Maine's Number One Political Problem: the manipulation of government by the overlords of the companies based on their resources."

—Duane Lockard, New England State Politics, 1959

Last year, throughout the country, the forest industry dumped a cornucopia of rich, fruity plums into state and national politics. Bushels of forestry money were lavished on presidential, congressional and legislative races. In Maine, top priority was uprooting the home grown Ban Clearcutting referendum. To achieve that the industry pulled out all the stops, breaking past referendum spending records.

The forest industry has always been politically influential in Maine. However, an analysis of recent campaign finance reports shows how the industry has been using big money to shape politics and affect policy in the pine tree state.

Banishing Ban Clearcutting

"...the Compact for Maine's Forests fell excruciatingly short of outright victory, but...hearing the [Ban Clearcutting referendum] was job One, and we got it done. That was victory enough for this round in the forest debate."

—George Smith, SAM News, December, 1996

Maine has seen some mammoth referenda fights in recent years, including two over the returnable bottle bill, three on whether to shut down Maine Yankee nuclear power plant. But for sheer throw weight the referendum was job One, and we got it done. That was victory enough for this round in the forest debate.

The campaign to defoliate Ban Clearcutting began a year before the referendum actually came to a vote. In fact, it began even before the citizens' petitions were submitted to the state. The industry sensed very early it would take a lot, nearly $6,000,000 in direct outlays. It is stunning to read through the campaign finance reports and see the lists of five and six figure contributions from independent paper companies. There are no legal limits on contributions or expenditures in referendum campaigns in Maine.

Of course, the actual bottom line was far larger than $6 million. What does not show up in the campaign reports are the in-kind contributions of Gov. Angus King, Conservation Commissioner Ron Lowglin, Forest Service Director Chuck Quirk and numerous other state officials who labored against the referendum. Since they did not report the value of their time, no one knows how many tens or hundreds of thousands of dollars should be added to the total.

What we do know is that, despite the record breaking expenditures by the industry through their political action committee, Citizens for a Healthy Forest & Economy, against the citizens' Ban Clearcutting initiative, they did not let the flow of money to other political contests in Maine dry up. On top of the millions spent to stop Ban Clearcutting, campaign reports document that thousands were also spent on legislative candidates. Plus the Maine Forest Products Council and the Maine Pulp & Paper Association spent tens of thousands more directly on legislative lobbying.

In the end, the Ban Clearcutting referendum did not pass, but neither did the Forest Compact, the alternative fashioned by the industry as a "moderate" decoy to deflect votes from the referendum. There will be a second vote on the Compact in November 1997. Nor have the backers of the Ban Clearcutting movement skulked back into the woods. They have reinvented themselves as the Forest Ecology Network, are venturing themselves as the Forest Ecology Network, are venturing themselves as the Forest Ecology Network, are venturing themselves as the Forest Ecology Network, are venturing themselves as the Forest Ecology Network, are venturing themselves as the Forest Ecology Network, are venturing themselves as the Forest Ecology Network, are venturing themselves as the Forest Ecology Network, are venturing themselves as the Forest Ecology Network.

Lubricating Legislative Races

"...industry lobbyists and officials ply the hallways of

Source: Maine Commission on Governmental Ethics & Election Practices, campaign finance reports, 1996;

Maine League of Conservation Voters, Environmental Voting Record of the 117th Maine Legislature, 1996;

Agriculture, Conservation and Forestry Committee, 1996

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<th>Amount ($)</th>
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<td>10/5/96</td>
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<td>(D-Lincoln County)</td>
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<td>10/26/96</td>
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<td>Sen. R. Lee Kieffer</td>
<td>Champion International</td>
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Source: Maine Commission on Governmental Ethics & Election Practices, campaign finance reports, 1996;
Mud Season 1997

The money spent by forest products interests to help elect and re-elect a hefty crop of lawmakers last year in Maine is an interesting case study in industrial politics. A number of unusual factors made it tricky for forestry folks who were trying to invest efficiently in the Maine Legislature.

For one thing, the competition for money with other races, including the anti-Ban Clearcutting effort, was intense. Still, most of the pulp and paper corporations came up with some legal tender to grease legislative races. International Paper and Champion International, for instance, each gave about $16,000. And that’s not all. Because 1996 was the first year for legislative term limits in Maine, crop rotation of legislators was high. As a result, it was difficult to figure out which incumbents to support. Only four legislators who were on the principal forestry committee last year are back on the committee this year. One member critical to the industry, Rep. Richard Gould (D-Greenville), who was term limited out of his House seat, lost a difficult race for the state Senate. Gould’s downfall occurred largely because he was identified as a major supporter of the Forest Compact, which many voters in northern Maine liked even less than the Ban Clearcutting referendum. He is still haunting the State House this year, but as a lobbyist for Bowater/Great Northern Paper.

Another complication was the shifting of majority parties once again. Both houses were returned to the control of the Democrats when that party garnered decisive majorities. That left uprooted key Republicans, such as state Senator Victor Cassidy (R-Washington County), former chair of the Agriculture, Conservation & Forestry Committee. He finally set some tendrils into the Transportation Committee, but he serves there without committee seniority. The forest industry has to be somewhat disappointed.

Cassidy received more than $3,100 from forest landowners and mills, including contributions from Bowater, Boise Cascade, Champion International, Georgia-Pacific, International Paper, Madison Paper, David Carlisle of Pinetite & Carlisle, Seven Islands’ president Stephen Schley, Madawaska lumber mill Ed Pelletier & Sons, and paper industry lobbyist John Delahanty. He spent over $19,500 to win a second term. His Democratic opponent spent one-quarter as much and came within 1,255 votes in a close race.

Cassidy earned a perfect zero from the Maine League of Conservation Voters (MLCV) for his 1995-96 legislative service. So conservationists are pleased to see him on the sidelines and out of the center of debate on conservation issues this year.

The forest industry suffered a setback but got a spending break when another of its star performers withdrew on the vine prematurely. Willi Lord (R), former Senator from York County, had a seat last year on both the Ag/Conservation/Forestry and Natural Resources Committees. His lifetime MLCV rating of under 20% indicates the level of his environmental sympathies. Lord lost his primary race in June by fewer than 100 votes. He had collected and spent over $9,500 for the primary, including at least $1,100 from forestry interests. Obviously he should have solicited even more grease. At least the money folks only had to invest in Lord for the preliminaries rather than watching more of their cash get washed away if he had gone on to lose in the general election.

One sure vote the forest industry desperately did not want to lose was Rep. Edward Dexter. A retired logger and eighteen year legislative veteran, Dexter may have received more forestry money than any legislative candidate in 1996. A third of his $6,700 came from forest industry interests and made a big difference. He outspent his opponent two to one, but won by less than 200 votes. An outspoken critic of environmental programs, Dexter earned a zero rating from the Maine League of Conservation Voters in 1995-96.

PACing the Deck
"A major reminder to candidates of the importance of [forestry] issues are the large donations they receive from paper companies through Political Action Committees."
—Mitch Landsey, Beyond the Beauty Strip, 1992

The forest industry financially irrigates legislative politics in Maine through a number of approaches. First, many of the companies give directly to candidates. Second, they give through political action committees (PACs). Champion International and Madison Paper, for instance, each put $1,000 into the Maine Business PAC in 1996, which in turn gave to candidates. Third, lobbyists and employees of forest products companies make contributions themselves to gain political access; the same folks also help organize fundraising events for key legislators. Finally, they can make money available to the parties.

The parties, of course, help their candidates. Six PACs run by the legislative leadership in 1995-96, four controlled by the Democrats and two by the Republicans, spent more than $500,000 on their candidates. Campaign reports show that the forest industry gave more than $10,000 directly to those PACs. The Democrat PACs attracted over $5,800 and the Republican PACs nearly $4,200 from forestry getters. Again, the actual amount was higher, because some contributions are funneled through lobbyists and company employees. Since, many lobbyists have numerous clients, it is often impossible to identify on behalf of which client a lobbyist is contributing.

By the way, the files for the Citizens for a Healthy Forest and Economy PAC contains an amusing Freudian slip-up that was not reported in the mainstream media. In a letter submitted a year ago CHFE mistakenly filed under the name Citizens for a Healthy Forest and Environment.

The Best Money Can Buy
"It is vain to say that enlightened statesmen will be able to adjust these clashing interests and render them all subservient to the public good. Enlightened statesmen will not always be at the helm."
—James Madison, The Federalist, 1787

Forest and wildlife issues are dealt with by a variety of legislative committees in Maine. However, current members of the three of the most important committees listed in the accompanying table. There has been tremendous turnover in the makeup and leadership of these committees. The Ag/Conservation/Forestry and Natural Resources Committees are a strange mix of conservative extremists and environmental moderates. The Fish and Wildlife Committee tends to be uniformly sympathetic.
ic to hook and bullet issues and unfriendly toward non-game and endangered species concerns.

A couple of disclaimers are in order about the tables. Some candidates did not fully complete the reporting forms, so there may be individuals from the forest industry who gave in their own names who are not easily identifiable. Also, only contributions over $50 are listed, under that amount contributors do not have to be itemized. Other committees also deal with forest issues. The Senate chair of the powerful Appropriations Committee, for example, is a forest industry employee. But the three committees listed here handle most forest and wildlife issues on a policy level.

We Can Afford to Do Better

"If Maine is going to hell anyway, it may as well go on its own terms. And if it is not, it will be because Mainers themselves took events in hand, did what was necessary to turn them to their advantage, and somehow built a high road for others to emulate."

—Richard Barzinger, A Maine Manifest, 1972

There was more money spent to influence elections in the United States in 1996 than ever, $2 billion. The Center for Responsible Politics estimates that $800 million was spent on the presidential campaign, three times as much as in 1992. An equal amount was spent on congressional campaigns, up from $660 four years earlier. And nationally more money was spent on electoral politics than previously by green groups, such as the League of Conservation Voters and Sierra Club. The results were mixed.

In Maine, U.S. Rep. James Longley (R-First District), widely considered one of the most extreme anti-environmental leaders in Congress, was defeated by an intensive voter education campaign. On the other hand, Susan Collins was elected to fill Bill Cohen's U.S. Senate vacancy. Collins comes from a family which has run a lumber business in Aroostook County for 150 years and is not much interested in progressive environmentalism. She received well over $80,000 from individuals and groups associated with timber and paper industries for her Senate run. Contributors included Champion International $5,000, Lumber Dealers Association $4,000, Hancock Lumber $2,000, and Boise Cascade $2,000.

As is true across the country, there is too much money in Maine politics. According to an analysis by the Maine Sunday Telegram, in 1996, $3.4 million was given to legislative candidates and political action committees controlled by legislative leaders. Over half a million dollars of that was contributed by more than 100 lobbyists and their clients, many of them from the forest industry. Of the 377 legislative candidates last year, 250 received cash from special interests.

In 1994 the cost of a state Senate seat in Maine averaged over $24,000, a House seat over $4,000. Figures have not been compiled for 1996 yet, but some legislative candidates spent upwards of $40,000 last year. Including salary, meals, lodging and travel allowances, the average annual compensation for Maine legislators is only $14,250.

As successively outrageous campaign fundraising scandals by both major parties at the national level come to light weekly, sometimes daily, the public desire for fundamental reform grows. After watching nearly five dozen reform proposals go nowhere in the Maine Legislature over the previous decade, citizens rose up. Volunteers collected more than 65,000 signatures from Mainers in one day to put a comprehensive campaign finance reform question on the November 1996 ballot. Voters approved the Clean Election Act. The new law will reduce maximum contributions by PACs and corporations from $5,000 to $500 for governor and to $250 for legislative candidates. Starting at the end of the decade the new law will also provide limited public financing for candidates who do not accept outside donations or put their own money into a race. Already the Clean Election Act is being challenged in court. If upheld, it could be an important step in campaign finance reform in Maine. It is also being eyed by several other states as a model.

Nevertheless, more is needed. There are a number of proposals in the Maine Legislature this spring, including "An Act to Prohibit Political Action Committees and Corporate Contributions in State Elections" (LD 501), "An Act to Limit Corporate Contributions and to Establish Voluntary Spending Limits for Citizen-Initiated Campaigns" (LD 646), "An Act Relating to the Use of Public Offices or Agency Facilities in Campaigns and Ballot Questions" (LD 817), and several bills to ban campaign contributions during a legislative session.

At the national level, Ralph Nader's Public Citizen group is supporting the McCain-Feingold Campaign Finance Reform Act (S.25 and HR.493). That legislation would limit PAC contributions, outlaw unlimited so-called soft money gifts to political parties, and set voluntary spending limits for congressional candidates.

We will only get meaningful campaign reform if enough voters learn about the issue and act. Suggested reading for the big picture is Peter Brown's book Restoring the Public Trust. Remember, politics is a contact sport. In Maine, contact Maine Citizens for Clean Elections, 1 Pleasant Street, Portland, ME 04101, phone 207-780-8657.

Jyn St. Pierre was a founder and has served since 1976 on the board of the Maine League of Conservation Voters.

FOREST PRODUCTS INDUSTRY POLITICAL CONTRIBUTIONS TO MAINE LEGISLATORS ON THE INLAND FISHERIES & WILDLIFE COMMITTEE, 1996

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Low Points of The Keneteeh Project

by Pamela Prodan

In spite of the fact that Keneteeh Windpower, Inc., received a LURC permit, now expired, it is doubtful whether the Boundary Mountains is a legally permitting site for a wind farm. Much of the land Keneteeh planned to develop as a wind farm is in protected mountain zones, with steep slopes and soils not suitable for roads and development. The Boundary Mountains have been designated by the Northern Forest Alliance as one of the ten conservation priority areas of the Northern Forest. Nonetheless, four mainstream environmental groups, Save the Boundary Mountains, were persuaded to endorse the project. While the application was pending, unresolved issues included soils, avian impacts, destruction of high mountain and remote values, and need for the project. In a last ditch attempt to get the project permitted despite LURC staff's belief it could not be legally permitted, Governor Angus King's administration interfered with and manipulated the permitting process. As a result, in August 1995, LURC rezoned 864 acres in the Boundary Mountains to allow construction of the project.

In the end, the company's bankruptcy was its downfall, but only after grassroots activists exerted pressure on state agencies that the soils and other information made due to the record is discussed. The staff goes run afoul of ex parte rules and calls the conversation, and suggests a meeting. Galbraith does not want to phone LURC from San Francisco and leaves a message for Bill Pidot, the Attorney General's office who advises him (incorrectly) there is no legal impediment to talking with Keneteeh's representatives. Pidot further advises Galbraith to give forthright comprehensible answers to reasonable questions. A meeting is set up for December 1, 1994, which Pidot will attend. December 1, 1994—LURC staff meet with Keneteeh to discuss outstanding issues. The meeting is attended by Keneteeh representative Chris Herter, Keneteeh counsel Chip Ahrens, Assistant Attorney General Jeff Pidot, Bill Galbraith, Acting LURC Director, Dave Allender, LURC supervisor, and Fred Griffith, LURC analyst. Keneteeh representatives say they think that the Commission is satisfied with the record. They ask what the staff concerns are so they have an opportunity to respond. A pilot project that would demonstrate techniques is suggested by Dave Allender. The possibility of reopening the record is discussed. The staff goes over its remaining concerns, including the size of the project and the miles of roads, and outlines the criteria for

by Pamela Prodan

Boundary Mountains Saved from Keneteeh Wind Energy Development

It took eighteen months of legal wrangling over the massive windpower project planned for the high mountain region of Maine near the Quebec border, but finally, the Keneteeh Windpower project is dead. On February 27, the Maine Land Use Regulation Commission (LURC), planning board for Maine's wildlands, voted unanimously not to give Keneteeh a six month extension on its development permit. The corporation, now bankrupt, but at one time a leader in the wind power industry, requested the extension so it can liquidate the project assets. Harley Lee of New Gloucester, Maine, an aspiring wind farm developer, told LURC that he had bid on the project, but had not finalized a deal with Keneteeh. He did not pressure LURC for the extension, admitting that six months probably weren't enough to give him enough time to put together a final development plan anyway. The day before the LURC decision, the Maine Board of Environmental Protection upheld a year-old appeal brought to contest a permit decision. Below are some controversial and divisive project. Written documentation exists for all events described below, much of it obtained by me pursuant to Freedom of Access Law requests to LURC and Department of Conservation Commissioner Ronald Love in 1995. Sources include transcripts, memos, letters, e-mail, and notes of meetings and conversations. This is by no means a complete chronology.

April 15, 1992—Initial meeting between LURC staff and representatives of U.S. Windpower, which subsequently became Keneteeh Windpower.

December 1, 1992—LURC Director David Boulter writes to U.S. Windpower consultant John Devine to warn that the project's "maximum opportunity design" might pose some difficulties and the design may conflict with the Commission's strategy for protecting high mountain areas.

December 14, 1992—LURC staff meet with U.S. Windpower. Chris Herter of U.S. Windpower says he is satisfied with the staff's concern about soils. He says that U.S. Windpower chose the location due to its potential to have the least visual impact.

June 3, 1993—LURC staff highlights numerous planning issues, and notes that the soils and other information submitted suggest that most of the turbine areas would not meet the criteria for exemption from the Protection Mountain Area (P-MA) subdistrict to a development district.

October 8, 1993—LURC staff writes to Keneteeh to request additional information and responses to various issues of concern.

January 10, 1994—Keneteeh admits in its response to LURC staff's October 8, 1993 letter that areas in the project's turbine strings do not meet LURC regulations' soil depth and slope requirements for rejoining from the P-MA designation.


July 26, 1994—LURC receives a copy of the four mainstream intervening environmental groups' binding agreement with Keneteeh. It requires Keneteeh to establish a land protection fund of $100,000 if it ever receives approval for a minimum of 100 wind turbines; contribute $50,000 toward a wind siting study for the rest of the state; and perform avian studies. The agreement contains a "gag" provision that requires the intervenor groups to support LURC's granting of all necessary approvals and not communicate to any person or agency anything inconsistent with that support.

November 2, 1994—William Galbraith, Acting LURC Director, meets with Keneteeh's attorney, Philip Ahrens ("Chip"), to discuss where the Keneteeh project is headed. November 8, 1994—The morning after Angus King's election as governor, Bill Whalen, Vice President of Keneteeh Windpower, Inc., telephones LURC from San Francisco and leaves a message for Bill Galbraith, Acting Director of LURC. Dave Allender, Supervisor of Development Review; and Fred Griffith, Senior Staff Analyst on the Keneteeh project. Whalen indicates that he wants to meet with LURC staff the next day about "making a deal.

November 17, 1994—The full Commission discusses general windpower issues and policy questions at its regular monthly meeting.

November 23, 1994—Keneteeh's attorney, Chip Ahrens, telephones Acting LURC Director William Galbraith to say that Keneteeh believes the Commissioners think the application could be approved, that Keneteeh does not want a denial and that he and Keneteeh want an opportunity to meet with the staff to assess where the project stands. Galbraith sends a memo to LURC staff members Dave Allender and Fred Griffith, outlining the conversation, and suggests a meeting. Galbraith does not want to run afoul of ex parte rules and calls Jeff Pidot of the Attorney General's office who advises him (incorrectly) there is no legal impediment to talking with Keneteeh's representatives. Pidot further advises Galbraith to give forthright comprehensible answers to reasonable questions. A meeting is set up for December 1, 1994, which Pidot will attend.

December 1, 1994—LURC staff meet with Keneteeh to discuss outstanding issues. The meeting is attended by Keneteeh representative Chris Herter, Keneteeh counsel Chip Ahrens, Assistant Attorney General Jeff Pidot, Bill Galbraith, Acting LURC Director, Dave Allender, LURC supervisor, and Fred Griffith, LURC analyst. Keneteeh representatives say they think that the Commission is satisfied with the record. They ask what the staff concerns are so they have an opportunity to respond. A pilot project that would demonstrate techniques is suggested by Dave Allender. The possibility of reopening the record is discussed. The staff goes over its remaining concerns, including the size of the project and the miles of roads, and outlines the criteria for...
approval. At the close of meeting Kenetech asks the staff to put its application on hold.

December 6, 1994—Acting LURC Director Bill Galbraith and Kenetech attorney Chip Ahrens speak by phone about what, if anything, Kenetech wants to do with respect to their application in light of the Commission’s discussion of windpower issues in November. Ahrens states that Kenetech does not want to proceed with bringing the matter before the Commission. Ahrens feels it is not fully comfortable with the project as proposed, and the staff would be hearing from Kenetech soon as they have determined what they want to do.

December 22, 1994—LURC’s Acting Director Bill Galbraith speaks with Chris Herter of Kenetech about discussions that Kenetech has had regarding what Kenetech should do in light of the recent issues discussion with the staff. Kenetech is debating whether it would want to reopen the record and risk the submission of further negative information/testimony in addition to the information that Kenetech wants to submit, and will let Galbraith know by early January. Galbraith advises LURC staff members David Allender and Fred Griffith of this conversation and directs Fred Griffith to complete a draft recommendation for presentation at the Commission’s monthly meeting in January.

January 10, 1995—Kenetech attorney Chip Ahrens calls Acting LURC Director Bill Galbraith to say Chris Herter of Kenetech wants additional time to evaluate other turbine configurations and numbers and will send a letter requesting more time.

January 15, 1995—Acting LURC Director Bill Galbraith writes to Chris Herter to request that Kenetech submit its draft recommendation to place the application on hold.

February 14, 1995—Kenetech’s representative Chris Herter sends a letter to Acting LURC Director William Galbraith and Kenetech attorney Chip Ahrens calling for a written assignment. Lovaglio receives a letter from Kenetech’s Chris Herter stating that the project shouldn’t be approved due to its negative aspects.

March 31, 1995—At the direction of Department of Conservation Commissioner Ronald Lovaglio, a meeting takes place, attended by Lovaglio, Evan Richert, Director, State Planning Office; David Allender, Project Supervisor, LURC; William Galbraith, Acting LURC Director; Chris Herter; Kenetech; Chip Ahrens, Kenetech Attorney; John Devine, Kenetech consultant and attorney Chip Ahrens speak by phone about what, if anything, Kenetech wants to do with respect to their application in light of the Commission’s consideration, making findings, but no recommendation.

April 20, 1995—At LURC’s regular monthly meeting, after a discussion of what approach to take, the Commission votes to bring back an analysis paper, with no recommendation, to LURC.

May 18, 1995—At the Commission’s monthly meeting, LURC staff presents an analysis and is told to redraft it due to its negative aspects.

June 4, 1995—Department of Conservation Commissioner Ronald Lovaglio outlines a scenario wherein the staff puts forth an analytical presentation for the Commission’s consideration, making findings, but no recommendation. Kenetech now would like the application to be processed without further delay.

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September 18, 1995—National Audubon Society and three of its Maine chapters (Western Maine, Mid-Coast and York County), RESTORE. The North Woods, Sam Hands and Daluth Wing, represented by attorney Pamela Prodan, petition the Maine Superior Court to reverse LURC's decision. May 22, 1996—Kenetech's attorney, Philip Ahrens, withdraws from representation of Kenetech. May 29, 1996—Kenetech declares bankruptcy.

Summer of 1996—The Superior Court case is put on hold because Kenetech's bankruptcy makes it questionable whether the project will ever go forward. Subsequently, Kenetech decides to liquidate the wind power assets.

February 4, 1997—Facing the 18-month deadline for filing its final development play by February 28, Kenetech requests a six month extension in accordance with LURC regulations.

February 27, 1997—LURC Commissioners vote unanimously to refuse Kenetech's request for a six month extension of time on its permit. The Future—A number of possible buyers have inquired at LURC about acquiring the Boundary Mountains project, but at this writing, there is no indication of a sale. Interested parties have included wind power developers and a company that is interested in obtaining the wind data collected by Kenetech. Over the past two winters, meteorological equipment has collapsed on the mountains and Kenetech is in violation of expired permits. Activists continue to oppose development of the Boundary Mountains.

Commercial Wind Power Siting Factors

Most people agree that not all exploitable sites should be developed for windpower, just as not all mineral resources should be mined. For example, sand dunes, the most lucrative sand resource, are entirely off-limits to extraction because of natural resource protection values. Arguably, the highest and best use of remote mountain areas also may be to leave them alone. However, several factors currently drive wind farms to Maine's wildland mountains, some more obvious and direct than others:

- Exposed and windy sites yield the most consistent energy resource and are therefore the most lucrative. This includes high mountains, plains and coastal areas. Therefore, profiteers that make investment attractive drive wind farms to these sites; and current low prices for energy and need to operate economically also drive wind farms to these sites.
- Dealing with one or two large corporate landowners, as is the pattern in Maine unorganized townships, means easier negotiations than with multiple owners as well as the possibility of a project of much larger scale than in other windy areas;
- The geographic isolation of the wildlands means that a project's visual and environmental impacts would be "out of sight and out of mind" to most people.
- The path of least resistance legitimizes siting undesirable land uses in unorganized jurisdictions of low-income and sparse populations.
- The current infrastructure for financing energy projects favors single-point lending and investment in large-scale multimillion dollar power installations, rather than the purchase of small, inexpensive systems by many widely dispersed households, businesses and industries.

A German environmental and planning firm has argued that producing electricity is a commercial activity and should be sited in areas designed for industrial development, according to an article in the March 1997 issue of Windpower Monthly, a Danish trade publication. Examples of suitable sites for wind farms, identified by the Institut fur Umweltmessungen and Planung in Hannover include land around warehouses in port cities, where buildings are often no higher than 12 meters. Advantages include ready road and grid access, easier planning and licensing, proximity to support infrastructure and better public acceptance. Maintenance of turbines and safety precautions must be taken seriously in these areas because of the presence of people, especially when ice builds up on the blades. However, control systems can stop turbines if ice builds up.

In Memoriam

Chris Niederer

The Northern Forest town of Fairfield, Vermont lost a great friend when Chris Niederer died in a freak cross-country skiing accident on March 22, 1997 at the age of 48.

Chris was the sort of person who is essential to healthy Northern Forest communities—a dedicated steward of his land who loved wilderness. He generously gave his time to the community, especially to the Fairfield School where, among other services, he taught an elective course in cross-country skiing. He was happiest outside, skiing in the woods, sailing, hiking, fishing, or rowing his Adirondack Guide Boat.

When Northern Forest communities become truly self-sustaining economically, socially, and culturally, it will be because quiet, resolute, caring people like Chris place friends, neighbors, and the welfare of their fellow non-humans above ego and personal aggrandizement.

Chris is survived by his wife, Lori, and two sons, Kit and Ethan, who were his pride and joy.

Vermont's Proposed Pollution & Energy Tax: Step Toward Sustainability

by Rebecca Ramos

Earlier this winter, the Vermont Supreme Court ruled that the state owes its children equal opportunity in education. The Court's decision has dwarfed all other political events of the current legislative session, as legislators grapple with the implications that the inequities inherent in the local property tax (which funds education) are unconstitutional. Essentially, Vermont must raise $650 million for education and distribute it equitably.

Vermont's conservation community, led by Friends of the Earth's Environmental Tax Project and the state chapter of the Sierra Club, proposes that a pollution and energy tax become part of both the property tax reform package and electric utility restructuring.

A broad-based tax on fuels that emit carbon dioxide and on electricity generated by nuclear and large hydro power, the tax is a critical step toward a more sustainable economy. "A tax that raises revenue to fund education for children while it protects the environment for future generations makes sense," said Brian Dunkield, director of tax policy at Friends of the Earth.

Vermont conservationists are urging the legislature to replace a sixth percentage point on the state sales tax, recently passed by the state House of Representatives, with a pollution and energy tax. The tax would stimulate Vermont's economic competitiveness by encouraging energy efficiency.

A pollution and energy tax could also enter into electric utility restructuring, with which Vermont is now flirting. Such a tax could keep electricity generated by dirty Midwest coal out of Vermont's energy mix. Dirty Midwest power contributes significantly to air pollution problems that damage Vermont forests, waters and soils.

Adam Necrason, legislative counsel for the Vermont Sierra Club, notes that regressive of a pollution tax can be balanced by low income initiatives. For example, a basic block of energy can be provided to low income households free; a portion of revenues can also fund weatherization and energy efficiency programs. According to research, effective efficiency programs can reduce energy demand by over 20 percent. With a tax that increased energy prices by less than five percent, most households and businesses could still see a reduced energy bill.

"Politically we have advanced the pollution and energy tax quite far. We feel the climate in Montpelier is very open to this idea so we plan to keep the environment tax proposal on our top priority list through the '98 session," Necrason said.
The Sable Gas Project

Stress Corrosion Cracking & Other Pipeline Worries

By David Orton

Editor's Note: The previous two issues of the Forum have carried articles on the proposed Sable Island Natural Gas Project. The following article by David Orton of the Green Web addresses some of the safety hazards associated with natural gas pipelines.

Opposing the Project

Those who oppose the Sable gas project and its proposed network of pipelines are in a crash learning course about the larger pipeline industry. One focus is the alleged safety of gas pipelines; the alleged regulatory role of federal and provincial governments; and the role of agencies such as the National Energy Board (NEB), the main federal regulatory agency, in looking after citizens' health and the public interest. One fundamental question seems to be, is the NEB a watchdog for the public interest or a lap dog for the oil and gas industry? Who sets the standards, the government or the pipeline industry? What are these standards?

The following analysis is mainly based on studying the National Energy Board's "Report of the Public Inquiry into Stress Corrosion Cracking on Canada's Oil and Gas Pipelines", November 1996, 158 pages. (Hereafter called the Report.) The analysis is also based on concerns which the Nova Scotia Anti-Pipeline Group, community anti-pipeline activists and the Green Web have been addressing. The safety of natural gas and gas-liquids lines and the personal stress arising from living beside a gas line, are major issues for rural residents facing the imposition of the Sable gas project upon the region.

Regulatory Capture

The NEB Report (p. 14), deliberately mentions its relationship to the trade organization of the pipeline industry: "Canadian Energy Pipeline Association (CEPA), an organization of the larger pipeline operators in Canada, played a major role in the Inquiry on behalf of its members.

Deeper environmentalists who have been involved with the oil and gas industry in Alberta and British Columbia, point to the National Energy Board as an example of what can be called "regulatory capture". That is, the NEB comes to reflect the point of view and priorities of the industry that it is supposed to be regulating in the public interest. In the Public Inquiry, as revealed in the Report, there was an overwhelming reliance on data and analysis supplied by the Canadian Energy Pipeline Association. CEPA is treated with kid gloves in this Report. For example, in the list of recommendations from the Board arising out of the Public Inquiry, about half were "requests" to CEPA and other industry organizations, not requirements. There was little public input. Of the three members from the NEB who carried out the Inquiry, K. Vollman and A. Coet-Veraus are also two of the three NEB representatives who signed the five-person Joint Public Review Panel for the Sable Gas Project.

Stress Corrosion Cracking

"The products transported through pipelines are hazardous substances." (Report, p. 3)

The oil and gas industry seems to assume the arrogant right to put their pipelines wherever they want, irrespective of the people and other plant and animal life forms directly impacted. This "right" is being totally challenged by many rural Nova Scotians. "Market" considerations become the justifying legitimacy for the pipeline companies.

We are told that there are more than 340,000 miles of buried oil and gas pipelines in Canada, varying in size from one inch to four inches (10 cm) diameter pipe. (Report, p. 1) Typically, large diameter pipelines operate at up to a maximum pressure of 1,260 lbs per square inch (PSI). (Report, p. 36) The Maritime & Northeast Pipeline Project says that the designed operating pressure for the natural gas pipeline will be 1,440 lbs PSI. (See 1996 Corridor Selection—Environmental And Socio-Economic Impact Assessment, Section 5, p. 1).

Sable Offshore Energy Project companies and Maritimes & Northeast Pipeline Project companies have a history of stress corrosion cracking (SCC). Despite opposing claims made in Nova Scotia, Westcoast Energy Inc. (through Rainbow Pipe Lines Co.), Mobil Oil (through Rainbow Pipes Line Co. Ltd.), Imperial Oil Resources Limited and TransCanada Pipelines Ltd., have experienced pipeline breaks through stress corrosion cracking. They have a documented history of SCC pipeline ruptures. (See Report, pp. 102-103, Table 6.1 "History of SCC failures in Canada").

In addition, Westcoast Energy Inc., along with TransCanada pipelines, both member companies of the Canadian Energy Pipeline Association (CEPA), acknowledge they have found "significant" stress corrosion cracking in their lines. (See Table 6.2 on p. 107 of the Report.) Significant SCC is in part defined as "deeper than 10 per cent of the pipe wall thickness.

The following is the Report definition of stress corrosion cracking: "SCC is a form of 'environmentally assisted cracking' or EAC. This is the generic term that describes all types of cracking in pipelines where the surrounding environment, the pipe material and stress act together to reduce the strength or load-carrying capacity of a pipe." (P. 15)

Note here the three factors of "surrounding environment", "pipe material" and "stress". Industry representatives seem to focus on replacing pipe polychethylene wrapping as if that is the main problem. The implied message is to replace wrapping by a different pipe coating, e.g. fusion bonded epoxy, or urethanes, and there will be no more problem. Stress associated with pressure in the pipe is downplayed. Pressure has to do with how much gas or gas liquids are being sent through the pipeline. This has a direct effect on corporate profitability. Gas and oil pipeline companies do not want to have to operate their pipes at reduced pressure.

Primary Safety with Industry not Government

For the NEB, "the pipeline industry has primary responsibility for pipeline safety." (Report, p. 3) Therefore the oil and gas pipeline companies, not the federal government have primary responsibility for pipeline safety.

The NEB Report says that since 1977, SCC has caused 22 pipeline failures in Canada. (SCC is a world-wide problem.) The failures "include 12 ruptures and 10 leaks on both natural gas and liquids pipeline systems." (Report, p. 102).

The NEB Report categorically states that SCC is a serious problem and will be the cause of future pipeline failures: "Based on the evidence presented in the Inquiry, we believe that SCC remains a serious concern for the pipeline industry. Without proper attention, it will inevitably be the cause of more pipeline failures." (Report, p. 106)

The NEB Report also goes on to state, "Many of the basic questions about SCC have not yet been answered." (P.117) This quite a position for the NEB to put forth. In the past, as the result of a public Inquiry held in 1993, the NEB had concluded that SCC was not a problem. However, more SCC failures forced the holding of another Inquiry with very different recommendations arising from it. (Report, p. 105)

In Perspective

We must however keep SCC in perspective, as it is only one cause of gas pipeline explosions. Other Pipeline Worries include the oil and gas industry, e.g. CEPA membership, to the NEB Inquiry, SCC only made up 17% of "service ruptures" during 1985-1995. Additional pipeline companies were "geotechnical"—meaning landslides, etc. (19%); "contact damage"—meaning earth moving equipment, etc. (23%); "general corrosion" (25%); and "other" (16%). (Report, p. 101) While the oil and gas industry seeks to downplay SCC, what we can see from their data, is that there are many other ruptures of gas pipelines with different causes.

The NEB Report states that each year there are typically 30 to 40 failures on pipelines regulated by this agency, although most are leaks rather than ruptures. (Report, p. 3) However, this figure would not take account of pipeline systems which are regulated by provincial regulatory bodies. Therefore the number of leaks and ruptures must be much higher than the NEB numbers.

The nuclear reactor at Lepeau in N.B. has recently been identified as having a SCC problem. (Toy NEB 1996 Report states that "Nuclear reactor carbon steel coolant piping systems have developed stress corrosion cracking." (Report, p. 107)

These have been two TV investigative reports on SCC and gas pipeline explosions. On both these programs, Dr. Wayne Tennessey, a metalurgist working for the company TransCanada International and stated to be an authority on gas pipelines, predicted many more problems with SCC. Tennessey also said on Country Canada that, because of the "sucking into" effect of an exploding gas pipeline, any human dwellings should be at least 1000 feet away from a pipeline.

At a Stellarton public meeting held on February 10, 1997, Bill Ostfichcock, an official with the NEB stated that, "the National Energy Board has no restrictions where a pipeline can be built. It can be five feet away from a home."

CEPA, the oil and gas pipeline industry trade association, is against any kind of safety buffer zone. In the NEB Report (p. 96) they noted the following: "The establishment of buffer zones for new pipelines would, in all probability, make land acquisition impracticable."

Pipeline Wall Thickness

Rural residents living near pipelines which have exploded or leaked clearly believe that having thicker walled oil or gas pipelines in rural areas as opposed to thicker walled pipelines in urban or more built up areas, is discriminatory. Also, the fact that there is no required buffer zone which pipeline companies must adhere to, shows a contemptible disregard for human life and well being. The NEB Report notes the following about how maximum stress levels in a natural gas pipeline are set (p. 92):
allowable stress level of the pipeline is reduced. In order to lower the stress on a pipeline, a company may lower the operating pressure, use higher strength pipe or use thicker wall pipe. The company will generally choose the latter.

In Canada the maximum allowable operating stress in a natural gas pipeline is determined by the number of buildings within an area 200 meters on both sides of the center line of a pipeline. There are four "class locations". Class I is less than 10 dwellings and the maximum operating stress is 80% of the specified minimum yield strength of the pipe. Class 4 are buildings four stories or more and the maximum operating stress is 44% of the specified minimum yield strength of the pipe. (See Report, p. 37 and for how class 2 and class 3 are designated.)

Landowners' and Residents' Rights & Informed Consent

The siting of gas and gas liquids pipelines inimically impacts what are referred to as "property rights". We have to realize that we are all just residents, very temporary residents, on the Earth. Whatever our understanding of property rights, which can be variable and specific to a particular human society, two ends must be served. Property rights must protect Nature, the non-human living creatures, and they must protect social justice within a society. The Maritimes & Northeast Pipeline Project and the Sable Offshore Energy Project violates both these two essential property rights considerations. Neither Nature nor social justice are protected.

From the examples taken out of the NEB's own publication, we see that the National Energy Board is essentially an oil and gas industry lap dog, not a watchdog for the public's interest. What the NEB offers landowners and residents faced with a pipeline on their doorstep, is a convoluted enslavement and deception. This process, enshrined in the National Energy Board Act, eventually results in the expropriation of land in the interests of the pipeline companies. The NEB process, over which the Joint Public Review Panel is now presiding, and applying it to the Sable gas project, has served the oil and gas industry well.

The Green Web is totally against the Maritimes & Northeast Pipeline Project. There are many important ecological, social and economic reasons to reject this minimum however, we believe any landowner (or long-term resident) faced with the prospect of a natural gas or oil gas pipeline in his backyard, has the right to refuse, and to have the pipeline rerouted. We call this informed consent. It is an evolving concept.

To inform consent means being aware of critical information about the dangers of existing pipeline systems and not just receiving promises from the companies. It means that rural residents have the say as to pipeline thickness and location. Rural pipelines should have the same thickness of pipe as urban pipes. No natural gas pipeline should be allowed within 1000 feet of any home. Informed consent would include landowners along the pipeline route being in contact with each other and exchanging information. The pipeline companies must be required by the NEB to divulge this list of names to all directly concerned.

Informed consent would mean landowners knowing beforehand the compensation which pipeline companies are offering as well as the compensation the companies are paying for traversing crown lands. All this should be public knowledge. We urge any affected landowner not to sign anything and to make life as difficult as possible for the Maritimes & Northeast Pipeline Project.

Gas Processing Plant

The Green Web is very concerned about the location of the gas processing plant in Goldboro, Guysborough County and what this means for the ecology and the people living in this beautiful rural coastal area. The more we learn about gas processing plants in Alberta and B.C., the more concerned we become. We are alarmed at the lack of critical information that is available people living in Guysborough County. There will be toxic sludge and waste materials produced. Much of it will end up being sent to the municipal landfill site near the black community of Lincolnville.

The gas processing plant in Goldboro will produce a continuing gas flare (unless it goes out, which apparently sometimes happens). Company documents report a "normal" flare height of one metre, but in emergency situations the height of the flare could be up to 15 metres. Reports from Alberta note that flare plumes from gas processing plants, e.g. Shell, contain high concentrations of toxic chemicals, and that people, animals, and the land itself, situated in the dispersed area of gas plumes (both sweet and sour gas) are getting sick. There are hundreds of compounds emitted from flares. "Routine" air emissions, according to the appropriate Sable Offshore Energy Project document (Addendum 2), include carbon dioxide and nitrous oxide, benzene, toluene, ethyl benzene, xylene, volatile organic compounds linked with ethylene glycol regeneration, etc. If this is all not enough, noise will also be associated with the gas plant.

Offshore Concerns

From investigating the Sable gas project and its early history, it is clear that the threat of gas and gas liquids pipelines today are the consequences of essentially unquestioned oil and gas exploration on the Scotian Shelf, started in the late 1960s. Literature distributed by the Sable Offshore Energy Project says, that "a total of 125 test wells were drilled in the Nova Scotia offshore region". Toxic drilling fluids, drill cuttings and waste material from the oil and gas deposits, would have been discharged into the sea from exploratory wells.

We know that despite claims by the oil and gas corporations, of being concerned about the ecology and the people living in this beautiful rural coastal area. This is a fact proven by the theoretical insights of conservation biology and lessons learned from the Wildlands Project and the non-human centered philosophy of deep ecology.

Establish Marine Reserve

The time is ripe for the establishment of a large non-extractive marine reserve which would encompass Sable Island and the Gully. The boundaries of such a marine reserve to be determined by the theoretical insights of conservation biology and lessons learned from the Wildlands Project and the non-human centered philosophy of deep ecology.

• To contact: David Orton at the Green Web, write: R.R. #3, Saltsprings, Pictou County, Nova Scotia; Canada BOK 1PO. E-mail: greenweb@xs4all.ca
• The Nova Scotia Anti-Pipeline Group can be contacted by writing to Sable Against the Sable Island Pipeline, P.O. Box 240, New Glasgow, Nova Scotia, Canada BOK 2K7.
• To obtain a free copy of Report Of The Impact: Stress Corrosion Cracking on Canadian Oil and Gas Pipelines, by the National Energy Board, 1996, write: Regulatory Support, Office, National Energy Board, 311 Sixth Avenue S.W., Calgary, Alberta T2P 3N2, Telephone: (403) 292-4800.
World’s Largest Nickel Deposit Discovered at Voisey’s Bay, Labrador

by Alexis Latham

Labrador has been discovered before. By the Norsemen almost a thou-
sand years ago, and by the Basque, Breton and Portuguese fishermen who
discovered the rich fisheries of the Labrador sea well before the Santa
Maria ever set sail. In the fifteenth cen-
tury, Giovanni Cabot, upon reaching the
shore of the New World, claimed the
lands of the Innu, Bonhule and Nic
Mac for King Henry VII, who sent him
hither to “conquer, occupy and possess
the lands of the infidels.”

But it would take almost another
500 years for a technologically over-
developed society to find a dollar value
for Labrador’s scrawny trees, fool’s gold,
and mighty rivers. Although Labrador
was the launching post for the earliest
explorers and merchant ships, it remained unexplored until well into
the twentieth century. Even the fur
trade, which had found its way to the
most remote corners of the Arctic,
failed to penetrate the Labrador intar-
io. The Labrador Innu continued to
freely roam the peninsula as they had
for thousands of years, following the
migrations of the caribou and the
salmon in their seasonal cycles. In the
1950s, an industrial encroachment began,
with the establishment of mil-
itary bases, hydro dams, and iron ore
mines. But still, most of Labrador
remains roadless and relatively
unspoiled.

The map of Labrador is dissected
by only a single road: a 500 kilometer
unpaved route connecting the iron
ore mines in western Labrador to the
Churchill Falls hydro complex, and east
to the Goose Bay military base. For
the rest, the peninsula is without cars,
billboards, cities, or even housing con-
structions, or even hiking trails. From
the extensive boreal forests of southern
Labrador, to the high sub-arctic tundra,
this land is filled with endless cycles
processes are in play, where large herds
of mammals roam freely over great
 expanses of tundra and tundra, and where
a delicate ecological balance is achieved
not by management, but by the drama
between wolf and caribou, falcon and
vole. It is a place where pristine rivers,
thick with salmon and char, run freely
from the mountains to the sea.

However, this is rapidly changing.
Between November, 1994—when a
Vancouver mining company, Diamond
Fields Resources, announced its discov-
ery of the richest nickel ore body the
world has ever known—and June, 1995,
the Labrador peninsula had been trans-
formed into a checkerboard of mineral
claims of hundreds of mining compa-
"nies from around the world. Today
claims are staked without ceremony, and
without so much as the requirement of
setting foot on the land. Hundreds of
holes have been drilled into the tundra
and tundra. Presently there are more than
50 companies actively drilling in
Labrador, the sky is awash with heli-
copters and planes; there are fuel spills,
giant bore holes, drilling sludge, animals
are harassed or killed; there is dumping,
debris, noise, heavy equipment—all of
this is taking place without any environ-

ment mental regulation whatsoever, and
without the approval of the Innu or Inuit
who live there.

A Place of Great Beauty

The site of the most famous ore
body is known as Voisey’s Bay, so-called
after an English trader, Amos Voisey,
whose abandoned weather-beaten post,
hangings precariously over the tidal
waters of the Labrador sea, is the only
testament to the presence of commercial
enterprise in this vast, undisturbed area.
The Innu call the place Emish, after the
Inuit presence here is more subtle, but is
everywhere: in old snares left hanging in
trees, in ancient and not-so-ancient campsites, and in the evidence, buried
deep, of the immemorial occupancy by
two peoples whose impact was no more
lasting than footprints in the sand.
Caribou antlers carefully suspended
from the upper boughs of trees in honor
of the Animal Master, are a reminder of
an ancient pact between humankind and
the animal world that made their
home a spiritual universe and insured
survival, in one of the harshest and
coldest climates in the world.

In the spring and fall, thousands of
migrating geese flock to feed and nest
in the nutrient rich marshes and
wetlands of the Voisey and Antakalek Bays. Whales and
dolphins sport in the turquoise colored
waters of the Labrador sea, is the only
place where pristine rivers, diving beneath rainbows, at the
feet of the rugged Shining Tops moun-
tains; wolf tracks mark the white sand
beaches and inland, animal paths—cari-
bou, lynx, bear, fox, marten—disclose
the intricate tapestry of lichen and
mosses, wildflowers, and berries of all
varieties. Eagles soar from giant granite
cliffs.

Innu and Inuit Ignored

Neither the Innu or Inuit were
informed before Diamond Fields set up
its exploration camp in the winter of
1994-95. Billions of dollars have exchanged hands over mineral rights
to this land, by those who have never
set foot in this land. After one of the
most intense biding wars in Canadian histo-
ry, nickel giant Inco, of Sudbury fame,
successfully out-bid Falconbridge, buy-
ing out Diamond Fields Resources
shares in Voisey’s Bay at $4.5 billion.
Diamond Fields biggest shareholder,
the infamous environmental criminal,
Robert Friedland (who is associated
with both the Summitville, Colorado
and Guyana mining disasters) walked
away from the deal with $650 million.
Meanwhile, the people of the barrens,
many of whom were born and raised in
Emish, remain virtually destitute.
Friedland is saying that he has
learned his lesson and promises the
development will be “environmentally
fool-proof”—a promise he has
absolutely no authority to make.

According to a study conducted by
the Wisconsin Department of Natural
Resources, there has never been a
metallic sulfide mine that has not
leached sulfuric acid into neighboring
streams or ground water. The waste
rock, which will constitute 95% of the
rock that is dug up, will remain toxic
for thousands of years. In the history of
sul-
fide mining in the US, no metallic sul-
fide mine has ever been reclaimed. Will Mr. Friedland succeed in
preventing the tailings from reaching
the lands of the Innu and Inuit?

Conclusion

Northern Labrador provides
refuge for many species which have been extir-
pated elsewhere in North America: wal-
rus, wolf, polar bear, eagles, Atlantic salmon, and an incalculable
number of endangered species, tenuous-
ly clinging to existence in this remote
region—most notably, the wolverine and Harlequin duck. In addition to the
problems of the tailings, there will be
sedimentation, which can clog streams or ground water. The waste
material is rich in sulfuric acid, which
will constitute 95% of the rock that
is dug. This waste rock is a problem
region-wide—most notably, the wolverine and Harlequin duck. In addition to the
problems of the tailings, there will be
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will constitute 95% of the rock that
is dug. This waste rock is a problem
NH Forest Advisory Board Refuses to Study Liquidation Logging, Clearcutting & Highgrading

by Jamie Sayen

On February 18, 1997 the NH Forest Advisory Board (FAB) rejected my request that it convene a committee to study clearcutting, liquidation logging and highgrading. The FAB's response to a request from a member of the public, and its interpretation of its mission suggest that NH forest policy has slipped back into the Dark Ages and that the excellent NH Forest Resources Plan (reviewed in the mid Summer 1996 Forum, page 18) may be headed for oblivion.

The FAB was established in the summer of 1996 in response to the Northern Forest Lands Council recommendation to create state forestry roundtables. The NH Forest Resources Plan (FRP) "Acting Item 11-1" outlined its role: "to advocate implementation of actions in this plan, coordinate forest policy development, facilitate dialogue between diverse interests and ensure opportunities for public participation in policy development." The FAB contains no members who participated in the two-year process of trust-building and plan writing, and thus far has conducted no hearings, study relevant literature, and visit logging sites.

Response to my proposal was bizarre. Champion forester Brendan Prusik first requested that I leave the public meeting before discussion commenced. I declined. Then he wanted to know if the public was going to inundate the Board with other requests, and if he was expected to read all the stuff submitted to the FAB by the public. Who, he complained, was going to pay for his time spent reading this material?

Ralph Arnold, of Tamoos, Inc. asked me if FAB turned down my proposal, would I be back the next month with the same request? I did not bother to point out to him that FAB could sho me away, but the issue will remain to be addressed.

At the FAB's third meeting, on January 21, 1997, I offered my proposal to study liquidation logging and highgrading. I suggested a study committee of six to nine people assess the impacts of such operations, especially: location of clearcut; pre- and post-harvest forest health quality (degree of high-grading and stand damage); and regeneration. I suggested that the study should assess both ecological and economic issues and that the study committee should conduct public technical hearings, review experiences of other states, study relevant literature, and visit logging sites.

Herbicde Action at Dartmouth College

On April 18-19, Dartmouth students will sponsor a weekend of events centered around herbicide spraying in NH and VT. For more information, contact Sally Dickinson, 603-646-7804.

Science Panel, discussion of the ecological and toxicological impacts of herbicide spraying. Friday, April 18 at 4:00 in 13 Carpenter Hall.

Keynote Address by Jamie Sayen: Friday, April 18 at 6:00 in 13 Carpenter Hall.

Native Forest Network Roadshow: Saturday, April 19, 11-12:30 in Collins Commons Ground Floor.

Awards Ceremony/Pres Conference: Students award former CEO of Champion the "Most Environmentally Destructive Alum Award." 12:30-2:30, 300 Collis.

Activist Panel: A discussion of herbicide activism with Barbara Alexander (VT Citizens Forest Roundtable), Cris Langille (Native Forest Network - VT) Daisy Goodman (Herbicide Project of NH), Caroline Snyder (Coalition for Alternatives to Herbicides - NH).

This Stratford, NH clearcut in left foreground was sprayed with herbicides by Boise Cascade in 1993. The state of New Hampshire refused to conduct a public hearing because, according to its interpretation, the area was "non-residential." Un可持续able cutting on the eastern face of Sugarloaf Mountain (upper right corner) is part of a 5,000 acre highgrading operation in the Stratford Bog area. Flying over this section of Stratford is a depressing sight to anyone who loves forests or who cares about the region's economy in the next couple of decades. Nevertheless, the NH Forest Advisory Board refused in February even to study the crisis in overcutting. Photo © Alex S. MacLean-Landscapes

In Memoriam: Robert Koch

The Adirondack region lost a great friend when Robert Koch died from injuries sustained in a freak automobile accident on January 28, 1997. Bob was only 37. He is survived by his wife Lois and two sons, Daniel and Timothy.

His mother, Maxine C. Koch wrote me a moving letter informing me of Bob's death, which read, in part: "He will be deeply missed by his family and by those people who shared his beliefs and concerns of the environment, especially the Adirondack region. Robert loved the Adirondack region and often went hiking and camping there. He became very much at peace when he was able to turn back to nature."

Bob loved wilderness. Sharing this love with his sons was his greatest pleasure. His mother wrote that his sons "were his first love and he was instilling in them a love for our earth." A trust fund for Daniel and Timothy has been set up. To contribute, contact Maxine C. Koch, 3236 Nancy Ave., Mims, Florida 32754.

Bob and I often spoke about plans for articles he never had a chance to write. We are the poorer for it. Here is an excerpt from his important Autumn Equinox 1996 Forum essay "Wilderness Values: Economics or Ecological Capital?"

Wilderness is a place where, when we decide—or are forced to accept—that we need—to lose more in harmony with nature, we will still have these remnants to examine how we may best change our actions to do so. Once we've paced all our roads, measured all our homes, and found all of our resources, then we might still have some place instructive to turn back to.

"We've been liquidating this timber resource for 350 years. If it becomes a problem, then we'll take action."

Only Jane Dilley of the Society for the Protection of New Hampshire Forests supported a study of liquidation logging. Dilley noted it is not just the amount of affected land, but that liquidation cuts are, in the eyes of the public, symbolic of what forestry is. A study, she suggested, would help improve public perception of the integrity of the forestry profession.

At its fifth meeting on April 15, the FAB will hold its first discussion of the FRP. Perhaps a few members will have read the plan by then.
Maine state waters? The Maine legisla­
tors of LD 773, "An Act to Study
value of establishing ecological marine
Coastal Waters." squared off at a March
4th hearing before the Marine
the Maine Department of Marine
Marine reserves, also called marine pro­
tected areas, are portions of the marine
environment where the natural ecology
is undisturbed by fishing or other
extractive practices.
Supporters told the committee that
marine reserves, where extractive
activities such as fishing are prohibited or
restricted, are important management
tools used worldwide to provide base­
line biological and environmental data
to scientists researching the impacts
of fishing and other activities to the Gulf
of Maine's ecology.
Without such baseline areas, bill
proponents said, it is impossible to carry
out the scientific studies necessary to
understand the impacts that fishing and
other marine activities have on the
long-term sustainability of Maine's
marine resources. They said passage
of the bill would bring DMRS's technical
expertise into marine protected area
studies already being carried out by the
State Planning office.
Opponents of the bill, including
commercial fishers, 'wise use' groups and
the Deputy Commissioner for
Marine Resources voiced a variety of
objections. Fishers were concerned
about potential loss of fishing grounds, and
said that the law would overlap new
federal regulations requiring studies of
"essential fish habitats."
Representatives of the Wise Use
groups Unorganized Territories United
and Washington County First called
the proposal "an ocean grab," and told
legislators that the study proposal was
linked to a global conspiracy to interna­
tionalize control over America's natural
resources. Deputy Commissioner
Estabrook said the state lacked money
to carry out such a study, and that tem­
porary closures of cod spawning areas,
as proposed in an earlier piece of legis­
lation, LD 590, would be sufficient.
Following a work session, the marine
resources committee gave the bill an
"ought not to pass" designation, effec­
tively dooming it.
All is not lost, however. The Maine
State Planning Office will host an invi­
itation-only marine protected areas con­
ference in Freeport, Maine on April 24-25.
The meeting will bring together
selected 'stakeholders' from the Gulf of
Maine states and provinces including
the Conservation Law Foundation,
New Brunswick Conservation Council
and a Nova Scotia conservation organi­
zation, fishing industry representatives
and state and provincial agencies to seek
for "common ground" on marine pro­
tected area designs.
—Ron Huber
Ballast Water Blues
Expanded commercial ports in Portland and Searsmont, and the cre­
ation of a new cargoport in Eastport,
have raised worries that new super-large
bulk cargoships will bring exotic marine
pest species to Maine waters in their
ballast tanks. Bulk cargo vessels typical­ly travel empty of cargo on one leg of
each voyage. For stability, the empty
ships take on large amounts of seawater
(ballast up to six million gallons) before
going to sea. Upon arriving at their des­
tinations to pick up bulk cargoes, most
or all of this water, along with the
organisms in the water when it was
taken on, is pumped out to make way
for lumber, woodchips, paper or other
export products taken aboard.
Biological invasions through ballast
water discharges have created havoc in
coastal and river waters around the
globe, including destroyed aquaculture
operations, giant fish kills, and fouled
power plant water intakes. In the Gulf
of Mexico, cholera bacteria was intro­
duced in ballast water in a ship from
South America, leading to a lengthy
shutdown of the Gulf’s shellfishery
when cholera germs were found in oys­
ters.
The Coastal Waters Project is working
with some members of the aquaculture industry and others to pres­
sure the state to join the Aquatic
Nuisance Species Task Force, created
by Congress in 1990 to coordinate federal
and state efforts to control the introduc­
tion of aquatic nuisance species into US
waters, and develop management plans
for minimizing the introduction of species into Maine waters. As a member
of the task force, Maine may be able
to qualify for federal funding to help
design new and renovated ports in a
way that would prevent the discharge of
exotic pests into state waters. A bill
introduced by Maine State
Representative Paul Chartand directing
the state to join the Task Force was
turned down by the Marine Resources
Committee, following a promise by the
Dept. of Marine Resources to include
ballast water management in the deliber­
ations of the land and Water
Resources Council, and interagency
committee composed of state natural
resource and transportation agency
heads, at their next meeting in April.
At a Coastal Waters Project-spon­
sored March 12 meeting on the issue in
Eastport, which attracted 25 critics of
participants from Nova Scotia and New
Brunswick as well as Maine, it was
decided to expand efforts to the cre­
ation of a ballast water management plan
for the entire Gulf of Maine region. For
more information, contact Ron Huber
at (207) 789-5310 or write the Coastal
Waters Project at POB 94
Lincolnville Maine 04849. Tel (207)
789-5310.
—Ron Huber
Sears Island National
Wildlife Refuge
Debate continues on the future of Sears Island, the largest unprotected
natural island on the US Atlantic coast.
Located off Searsport in the upper
Penobscot Bay, 980 acre Sears Island
is surrounded by eelgrass beds that serve
as nursery areas for areas for cod flounder and
numerous other marine creatures.
The likely destruction or damage to eelgrass
meadows was one of the major reasons
the state abandoned the island port pro­
posal last year. While the King administra­
tion has proposed that the state pur­
case the island, setting aside one-quarter
of it for a future industrial port, envi­
vionmental and conservation groups
and other citizens have been negotiating
with the US Fish & Wildlife Service
towards designating the island a
National Wildlife Refuge.
The King plan would pay to buy
the island by adding a $2 million
request to a general state transportation
bond at the next election, while sup­
porters of wildlife refuge status are
looking at private and non-profit
monies to buy the island and then
transfer ownership to the U.S. Fish and
Wildlife Service.
For more information about any of
these issues, or to get involved in pro­
tecting Maine's marine heritage, contact
the Coastal Waters Project at POB 94
Lincolnville Maine 04849, Tel (207)
789-5310.
—Ron Huber
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Right whale

The Northern Forest Forum

Mud Season 1997
Survey of Retired Fishers Reveals Historic Inshore Gulf of Maine Fish Abundance
by Ron Huber

The Gulf of Maine's most heavily exploited species, cod and haddock, are not amorphous schools ranging blindly throughout the Gulf with few if any genetically distinct sub-populations. Recent oceanographic studies, and a survey of retired fishing captains, suggest that, like the Atlantic salmon, these apex predator species consist of numerous discrete stocks with individual ranges and spawning areas, and that many of these areas are biologically isolated from each other. These findings may have major implications for efforts to restore inshore fisheries in the Gulf of Maine's coastal waters.

In 1995, the Rockland, Maine-based Island Institute commissioned businessman Ted Ames of Stonington, Maine to interview retired fishing captains on the locations of inshore spawning grounds within the Gulf of Maine. Ames' interviewees described preferred inshore spawning habitat for species such as the cod as vast boreal wildlands, and of the endangered people who live within them. Most of the organizing in Canada is directed toward the protection of these wild rivers of Quebec and Labrador. It is scarcely known that the Gulf has been building major dams in this part of the Innu homeland, compris...e. The Friends of Nitassinan is dedicated to the protection of these wild rivers of Quebec and Labrador. It is scarcely known that the Gulf has been building major dams in this part of the Innu homeland, comprised by Hydro-Quebec's SM3.

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EVERY PERSON'S NEED

by Michael Phillips

Us and them. Some of us know what's good for this earth and others are total greed barons, right? It can be easy to feel that way when you knock heads with the powers that be. Or even friends and family that find the snowmobile for everyone getaway weekend irresistible, or—gasp!—buy strawberries into our streams and air are symptoms of good in this world.

We have lost respect for our surroundings by beginning with our selves. An embracing heart goes beyond anger and hate for the wrong-doer to find a compassion that touches the other person's soul. Standing strong in the face of aggression is important, but so is understanding the spiritual vulnerabilities of the aggressor.

There is enough far every man's need, but not enough for every man's greed.”
—Gandhi

earth's riches. We have lost respect for the place of all life in the grand harmony of Creation. We are out of touch with the humbleness and joy that are just as much a choice in our relatively few days on this awesome island home.

Northern Forest Forum Classifieds?

We need a classified section for these messages being beamed out to space in search of intelligent life. Drawn beneath that Main code rendition of pi, surely, we could find one room...

Wanted: Another planet for earth's global economy. Exterior gloss looks good, but fundamental errors in value structure require work. Stock options in tobacco companies included. Serious inquiries only.

Barter Deal: Complete set of Dow Jones Industrial Averages for the past twenty years. Will trade for topsoil or old growth forest.

Looking for a Life? White male, age 39, seeking environmental asylum. Fantasies include a human community bent on caring for its planet home and striving confidently to feelings of superiority and an unwillingness to compromise. Thinking in terms of self is not an answer to the world's problems. Thinking in terms of respect for one another and the path we walk together leads to solid ground. We best affect our surroundings by beginning with ourselves. An embracing heart goes beyond anger and hate for the wrong-doer to find a compassion that touches the other person's soul. Standing strong in the face of aggression is important, but so is understanding the spiritual vulnerabilities of the aggressor.

There is power in visualizing a better world and striving confidently towards it. Our ability to make a difference hinges on respect. We won't change other hearts unless mutual recognition takes place. The gloom of human stupidity pales next to human love and the miracle of being. "We shall overcome" is an inclusive struggle.

Local Economy Profiles

Local economy in action is the best way to see the ideals often expressed in this column. Next issue we will begin a regular feature to profile commendable wood-workers, farm stewards, and green business ventures that are making a difference. We need to hear from you to find the eco-entrepreneurs in each region of the Northern Forest. Write us today! Every Person's Need, RFD 1 Box 275, Groveton, NH 03582.

This Spring Plant an Apple Tree

Nurturing apple trees along is an earthly pleasure not to be missed. Varieties should be family favorites appropriate to your hardiness zone. Spreading the harvest season out with an early fall variety, a mid-season apple, and a good winter keeper may be the best choice. Here are some organic tips to help make your home orchard fruitful.

• Removing all alternate host trees within a hundred yards of your trees will reduce insect damage as most apple pests won't migrate this far in search of your apples. You can always offer to care for a neighbor's fruit tree that's been too long neglected.
• Disease control can be abetted by raking up all the fallen apple leaves in late fall. Either compost these in a general humus mixture or take a couple miles away to where apples aren't growing.
• Choose scab-resistant apples like William's Pride, Redfree, and Liberty that are immune to the scab fungus. Tolerant varieties like Burgundy, Sweet 16, and Tompkins King can get scab, but damage will be minor in a normal season.
• Hand thinning is as vital in the backyard as on any apple farm. Removing fruit to every sixth to eight inches along the branch makes all the difference. Always make the effort to remove insect-stung fruit. Raking up "June drops" for this very purpose is doable with just a few trees in a mown yard.
• Curculio weevils are likely to be the greatest insect problem. Capture the little buggers by jarring them daily onto ground tarps during the two weeks or so immediately following bloom. Apple maggot fly can be effectively trapped out with red spheres (four traps per twenty-five foot length of branches). Codling moth pressure can be reduced by hanging cut-open milk jugs containing molasses solution spaced with a few drops of sassafras oil.
• Bees destroy young trees by chewing away the inner bark. One old time repellent worth noting was to make a woodash slurry with onion juice to coat the trunk thickly at the soil line in late June. Any egg skins blessedly made by the adult beetle need to be gouged out with a small knife.

• Disease control...