Biologists Tell Northern Forest Lands Council

ESTABLISH ECOLOGICAL RESERVES

Forest Management Should Mimic Natural Disturbance Regimes

Human Activity Should Complement, Not Oppose Laws of Nature

ONLY A NETWORK OF LARGE, BUFFERED, CONNECTED RESERVES
WILL PROTECT THE ECOLOGICAL INTEGRITY OF NORTHERN FOREST ECOSYSTEMS

SEE PAGES 6-14 FOR THE PROCEEDINGS OF THE NORTHERN FOREST LANDS COUNCIL "BIOLOGICAL RESOURCES DIVERSITY FORUM"

Printed on Chlorine-Free Paper
Ecol ogical Integrity - How Much is Enough?

"I strongly believe that we are going to have to have preserved land. There's no question about that."  
— Sharon Hayes, Biologist

"In order to stop the destruction of native biodiversity, major changes must be made in land allocations and management practices. Systems of intact ecological refugia, and other large nature reserves, surrounded by multiple-use land, will best protect species and intact ecosystems."

Dr. Reed Noss
"TheWildlands Project: Land Conservation Strategy"

On December 9 the "Biological Resources Subcommittee" of the Northern Forest Land Council (NFLC) hosted a one-day "Biological Returns Diversity Forum" at which nine biologists instructed policy-makers about biological diversity and why it matters. As expected, there was a wide range of opinions from nine "experts" from diverse backgrounds, but on one vital issue there was unanimity:

How Much is Enough?

The biologists told the NFLC and the 40 or so audience members that human activities—especially forest practices and development in the Northern Forests—do affect biodiversity and ecological integrity. They recommended that forestry practices mimic nature; individual tree or group selection logging is preferable to huge clearcuts and whole-tree harvests.

The biologists warned us must move beyond our concern with individual species that are on the brink of extinction to a concern with entire ecosystems and their processes. If we protect the integrity of ecosystems, we will provide the best protection for threatened and endangered species, and, most importantly, we will protect species and communities before a crisis arises. Ecosystem integrity dictates not only that we protect what's currently here, but that we take steps to facilitate the restoration of native species that have been extirpated. It is time for wolf, cougar, wolverine, lynx, caribou, pine marten and Atlantic salmon to return home to the Northern Forests.

To assure the habitat needs of the largest, widest-ranging native species such as wolves, we must create a network of large, connected wilderness refuges. Debate over size will rage on, but I urge everyone to avoid the minimalist trap of asking the question: "How small a reserve can we get away with?" This is the ecological equivalent of the Christian asking, "How many sins can I commit and still enter Heaven?" Remember, for over 99.9% of human history we have lived in wilderness. During that period 100% of Earth was wilderness, and that wasn't too much!

To adequately protect regional ecological integrity, we must address the issue both regionally and globally. We belong to a new group, the Wildlands Project, that does just that. Wildlands Project ecologist Dr. Reed Noss believes that a minimum of 50% of North America must eventually be incorporated in a continent-wide wilderness reserve system. If we are to protect the evolutionary options of native biota. While we may quibble about the actual percentage, it is clear that the great evolutionary challenge for citizens of North America in the 21st century will be the rewilding of a continent that was almost entirely wild less than 400 years ago.

In our own region, 42% of the six million acre Adirondack Park is managed as publicly owned wilderness; yet this is not enough to support viable populations of many native species. In northern New England, there is virtually no designated wilderness, except for the overused 200,000 acre Baxter State Park in Maine. Our work is cut out for us.

How in the world can we create these reserves if 93% of northern New England is privately owned? By confiscating land from small landowners? Absolutely not! Today there are an estimated 3.5 million acres of land for sale from "willing sellers" in the Northern Forest Region.

The biologists told the NFLC and their audience members that the Adirondack Park is the only public land purchase program that can no longer be relied upon to restore and preserve it; funds, can no longer be relied upon to purchase this land, much of it owned by absentee paper corporations and the heirs of 19th century timber barons.

The public and community must buy the bulk of these large holdings which can serve as the starting point for the ecological restoration. The price is affordable—less than one-fifth the price of rebuilding southern Ford after the battle of Antietam. The benefits are inestimable.

At the conclusion of his December 9 presentation to the NFLC, Middlebury College biologist Dr. Steve Troumbakas posed the real questions facing Northern Forest communities and policy makers:

1) What must we do today to restore and maintain the ecological integrity of the Northern Forests?
2) What must we do to develop policies that operate in conjunction, rather than in opposition to, laws of nature?

It's time for us to roll up our sleeves. The fun work has begun.

—Jamie Sayen

Northern Forest Forum Statement of Purpose

The Purpose of the Northern Forest Forum is: To Promote Sustainable Natural and Human Communities In and Beyond the Northern Forest Region.

The Forum will focus on:
• The Ecological Integrity of the region and strategies we need to adopt to restore and preserve it;  
• The need for Economic Reform into an economy that is ecologically sustainable, equitable, and locally and regionally controlled;  
• Community Empowerment; and  
• Monitoring the Northern Forest Lands Council.

The Forum is the only publication devoted to exploring the Northern Forest as an arena of local, state, national and global significance. It will seek to involve all citizens and groups concerned about the future of the Northern Forests, especially groups working for economic and community revitalization, religious and cultural interests, local officials, foresters, and citizens of the Northern Forest communities.

We believe we can find the common ground that unites the diverse elements of the Northern Forest community. The Forum will provide an empowering forum for the unheard voices of the human and non-human communities of the region.

We hope to stimulate a healthy debate that will assist our search to find common ground, not more polarization. We hope the Forum will promote a sense of regional and cultural identity and celebrate the integrity, beauty and resilience of the biotic community and the cultural diversity of the human communities of the region.

The Forum will work to assure that political, economic, social and cultural strategies for the region’s future be ecologically sound. Particularly, we will promote forestry practices and wood products manufacturing that are ecologically sound, socially responsible and economically viable.

Articles published by the Forum will represent the views of the authors only, and will not necessarily represent the views of all supporting members of the Forum or its editorial staff.

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Spring Equinox 1993
They agreed that our current emphasis upon protection of biological diversity is a problem. Malcolm first-hand just how pressing our regional importance for two critical reasons: that are designed to protect the ecological integrity of Northern Forest Lands Council (NFLC) on December 9. Current reserves, they agreed, are not adequately clining. Rainer Brocke disagreed in his opening remarks, but later in the proceeding, when shown a photograph of the massive clearcuts in Maine, he acknowledged "this Maine devastation."

We need a system of regional reserves. The panelists agreed that abusive development and forestry both pose serious threats. Clearcuts are overused in northern Maine-Orono, Sharon Haines of University of Maine, Sharon Haines of International Paper, Stephen Trombleak of Middlebury College, and Malcolm Hunter, Jr. of SUNY College of Environmental Science and Forestry, responded to a series of questions posed by the NFLC "Biological Resources Subcommittee" which hosted the forum. Their responses are printed in this issue of the Forum beginning on this page.

Next, a second panel of five expert commentators—biologists from a wide variety of backgrounds across the region—commented on the earlier presentations and offered some thoughts of their own. Following a break for lunch, the expert commentators posed questions to the four featured presenters.

The December 9 Biological Resources Diversity Forum was important for two critical reasons: (1) A network of ecological reserves that will adequately protect the ecosystems native to the region as part of an overall plan to protect the ecological and evolutionary integrity of the region. (2) The biologists, including Sharon Haines of International Paper, agreed that we need to create a system of ecological reserves that protect all ecosystems native to the region as part of an overall plan to protect the ecological and evolutionary integrity of the region.

Consensus on Biodiversity

The panel of biologists—Rainer Brocke, Sharon Haines, Malcolm Hunter, Jr., and Steve Trombleak—reached consensus on a number of critical issues:

(1) A network of ecological reserves is a key element of any plan to protect biodiversity;

(2) We must focus our studies and actions on ecosystems, rather than merely on species near the brink of extinction;

(3) There is a critical need for more information regarding biodiversity within the region;

(4) Loss of biodiversity is a serious threat to our ecological and economic well-being;

(5) Many current human activities—especially forest practices and development in the Northern Forest region—contribute to the loss of biodiversity;

(6) Studying biodiversity on a regional scale, as the Northern Forest Lands Council is doing, is essential.

The Status of Biological Diversity

The panel members agreed that loss of biological diversity is a problem. Overall, there was agreement with Malcolm Hunter's statement that the status of biodiversity is "poor and declining." Rainer Brocke disagreed in his opening remarks, but later in the proceedings, when shown a photograph of the massive clearcuts in Maine, he acknowledged "the devastation."

There was agreement that ecosystem resiliency (the ability to resist disturbance or to recover from it) declines with repeated abuse. There was agreement that we must address the problem of biodiversity on an ecosystem level. The current focus on species near the brink of disaster deals with ecosystem integrity and natural processes. It also fails to protect species not yet in trouble, and it fails to address the issue of the restoration of extirpated native species. Reserve designs should strive to protect representative examples of all native ecosystems.

Human Activities

Predictably, Sharon Haines of International Paper did not feel clearcuts are necessarily harmful. Steve Trombleak disagreed, and Malcolm Hunter pointed out that, at the very best, clearcuts are set in northern New England. All four felt that harvesting should be ecologically responsible and that harvesting practices should mimic natural disturbance regimes. A fascinating discussion on natural disturbance regimes in the area revealed that the most common and frequent disturbance regimes involve small patches, not huge, contiguous swaths of forest. Accordingly, single tree or group selection more closely resembles natural disturbance regimes.

The panelists agreed that abusive development and forestry both pose serious threats to the region. In some cases—nearer other developed areas, along shorelines, and in places with scenic vistas—development is a more serious threat. But, in much of the remote Northern Forests, the gravest threat to biodiversity comes from unsustainable forestry.

Research Needs

All agreed with Dr. Hunter that we need a common classification system for the ecosystems of the region, and an assessment of which systems are adequately protected. Today only about 2-4% of these systems receive adequate protection. Dr. Haines noted that we need inventories of biological diversity on public and private land if we are going to manage land properly.

Currently, we know very little about: invertebrates, soils, how ecosystems function, and the long-term trends in ecosystems (and the impact of human activities). Dr. Trombleak proposed that the most important research priority is conducting research in the Northern Forest region to identify what we know, and what we currently are studying so that we can identify the research priorities for conservation biology in the region. This idea was well-received.

Large Refugia

Current reserves do not protect the region's ecological integrity; the most important agreement reached at the forum was that we need to create a system of ecological reserves that will. There is not yet consensus on the size and design of such reserves, but future research will debate has now shifted from whether or not such a system is needed to questions of how we should design a reserve system. These refugia must contain roadless areas large enough to support large native carnivores such as wolves, cougars, lynx and wolverines.

To restore intact ecosystems we must create a system of core reserve areas that are surrounded by buffer areas (which permit some human activity, so long as it does not compromise the ecological integrity of the core areas). And these reserves must be connected to other reserve areas.

In addition, it is imperative that we coordinate public and private land management activities so that the goals of one owner do not adversely impact the goals of another--or compromise regional ecological integrity.

The Northern Forest Lands Council deserves high praise for taking the critical first step in reversing the loss of regional biodiversity. But, this is only the first of many steps that must be taken swiftly. The December 9 diversity forum raised questions that can no longer be ignored, no matter how inconvenient it may be for us to reform our political and economic values and activities.

Biodiversity Forum—One View From the Peanut Gallery

by Jamie Sayen

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The Northern Forest Forum

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Temporary & Transitional: The Real Forest Primeval
The Evolution of Maine's Forests Over 14,000 Years

by George J. Jacobson and Ronald B. Davis

The mystique of an ancient and stable "forest primeval" is the popular concept of the landscape encountered by the first European settlers of North America. Since that time, North American landscapes have been increasingly affected by human activities, so that in our modern world, with its ever diminishing natural areas, the nostalgia for the "forest primeval" is understandably strong. There may be, however, a tendency to romanticize that ancient forest as one of uniform expanses of pristine growth, unchanged and undisturbed until the first pioneers began clearing the land.

What were those ancient forests really like, particularly in Maine? Is there any validity to the idea that they were free of perturbations, endlessly stable and unchanged until put to axe and saw? That this idealized concept of Maine is wrong has become abundantly confirmed by modern glacial, whose melting ice sheets deposited a wealth of glacial deposits in Maine about 13,500 years before the present (BP), and from such evidence we conclude that the coastal zone was inundated by the sea during deglaciation. This happened because the last ice sheet had depressed the earth's crust. As glaciers around the world began melting, about 18,000 BP, the meltwater caused a worldwide rise in sea-level, which inundated the degraded landscapes of recently glaciated coastal areas. While most marine fossils deposits in Maine occur within a few score miles of the present coast, they occur as far as 100 miles inland along major river valleys such as the Penobscot and Kennebec.

During the marine inundation, which lasted roughly between 300 and 1,500 years, glacial ice still remained in northern Maine. Glacial meltwater in river valleys carried huge amounts of rock-flour to the sea, where the material was deposited. Throughout this time the deglaciated land was rising in response to the removal of glacial weight. The rate of this eventually outstripped the rise in sea level, and by about 12,500 to 12,000 BP, the coastline was (temporarily) at approximately the same position as it is today. At that time, fresh-water sediments began to accumulate atop the older marine deposits in lake and wetland basins in the coastal zone.

Further inland, beyond the limits of the brief marine incursion, the earliest postglacial sediments in lake basins were deposited in freshwater. Around 13,000 BP in central Maine, and about 10,000 years later in northern Maine, glaciers were disappearing, leaving exposed landscapes that were in an unstable condition. For the first few decades—and possibly the first two or three centuries following deglaciation—before a stable vegetation cover became established, large amounts of rock-flour washed into lakes and streams. The barren condition of the landscape, along with what was probably a cold climate adjacent to the melting glacier, would have supported animal life as the melting ice front became more remote. Plants gradually were able to spread into the area from the south, and the vegetation cover became more complete. Speciation, pollen, leaves and seeds of these plants became more abundant in the sediments of the lake bottom. With increasing plant cover came an increasing number of herbivores and carnivores to feed upon them.

Tundra and Open Woodlands: 13,000 to 9,000 BP

The earliest vegetation to cover the exposed landscapes of Maine was a tundra or nearly tundra condition that still exists today. The vegetation that covers northernmost Labrador today. Vegetation remains in lake sediments indicate that arctic and subarctic species of herbaceous and shrubby plants were abundant in the early tundra. The first trees to invade the tundra were aspen, spruce and paper birch. At first, these formed open woodlands, with tundra persisting between isolated individual trees or groves of trees, which may have been similar to the present vegetation near the northern tree line in central and northern Labrador. As tree populations expanded, tundra plants eventually were crowded out. In much of Maine, a spruce-dominated forest dominated the vegetation for good tree growth—a condition that still exists today.
The First Closed Forests: 12,000 to 9,000 Years BP

Closed spruce forests had formed in southwestern Maine by 12,000 BP. Forest closure progressed northward, and by 9,000 BP had reached northernmost Maine. In the north, though, a spruce-dominated forest stage was brief and perhaps non-existent in places; the initial closed forest there had considerable proportions of temperate tree species in addition to spruce. Plants characteristic of open areas flourished where disturbances such as fire and insect infestation killed the trees. Abundant charcoal particles in the sediment, along with fossils of plants such as paper birch and alder, testify to the frequency of fire and other natural disturbances. About 11,000 to 10,000 BP, maple, oak, and finally white pine arrived in southern Maine. They rapidly increased in abundance, replaced most of the spruce and fir, and brought about a dramatic change to a temperate forest.

As illustrated by the maps accompanying this article, the deglaciation of Maine and the establishment of vegetation was not simultaneous over the entire state; it took more than 2,000 years for these changes to progress from southern to northern Maine. The maps also show that the changes from tundra to open woodland to closed forest were delayed in the north.

Closed Temperate Forests of the Past 10,000 Years

The closed forests that first formed in southern Maine 12,000 years ago and in northern Maine 9,000 years ago have been anything but stable since then. The past 10,000 years or so are considered to be an interglacial period, one of 20 or more that have separated major periods of glaciation during the past two million years. Each of these interglacial periods has included significant changes in climate and vegetation. Superimposed on these broad-scale changes are many that are site-specific and probably related to biological interactions, local disturbance, and soil conditions. The forests of today, as well as those that were here in Colonial times, differ dramatically from those that covered the state at most other times since the last deglaciation.

The present interglacial can be divided into five periods in which the vegetation of Maine had distinctive properties. As noted previously, the period during which the first closed forest of spruce, fir, and balsam fir was established is dated to about 11,000 years ago and is discussed in the next section. An interval during which extensive meadow vegetation was present at the expense of spruce is dated to between 9,000 and 8,000 years ago. A period of frequent disturbances such as fire and insect infestation killed the trees. Abundant charcoal particles in the sediment, along with fossils of disturbance indicators such as gray and paper birch, suggest that fire continued to be important through this interval. As can be seen in the generalized pollen diagram for central Maine, white pine was strikingly more abundant then than it has been at any time since, including just prior to the massive logging of the past century.

Pine, Birch, and Oak Forests of 10,000 to 7,000 BP

Between 11,000 and 10,000 BP in southwestern Maine, and by 9,000 BP in the north, boreal tree species were largely (in the south) or partly (in the north) replaced by white pine and oak. Once present, these trees remained common in the forests for 3,000 to 4,000 years— that is, until about 8,000 to 7,000 BP. Abundant fragments of sedimentary "chert" and other sediments as well as fossils of disturbance indicators, such as gray and paper birch, suggest that fire continued to be important during that interval. As can be seen in the generalized pollen diagram for central Maine, white pine was strikingly more abundant then than it has been at any time since, including just prior to the massive logging of the past century.

Hemlock, Beech, and Birch Forests of 8,000 to 5,000 BP

Forests of white pine, birch and oak were greatly affected in Maine by the northward expansion of hemlock, 9,000 to 7,000 years ago, and by the arrival of beech soon after that. Fossils also indicate that yellow birch became an important forest component for the first time, just when hemlock populations increased. Charred plant fragments are much less abundant in the sediments deposited at that time, suggesting that fire frequency was much lower than during the earlier period dominated by pine. In much of the state, the dense, moist forests dominated by hemlock were widespread. With minimal undergrowth, such forests would have been particularly favorable for large herbivorous mammals.

Sudden Decline of the Hemlock Forests, 5,000 BP

Pollen diagrams from across the northeastern United States reveal an abrupt drop in the abundance of hemlock 5,000 years ago. So great, rapid, and synchronous a decrease in the abundance of a major species—across virtually its entire range—is almost unprecedented in the paleoecological record for North America. Professor Margaret Davis, of the University of Minnesota, first noticed this unusual phenomenon and suggested that hemlock was probably hard-hit by a virulent (but unknown) pathogen that spread rapidly through the entire population. We are familiar with the similarly rapid devastation of chestnut forests by the chestnut-blight fungus early in this century; Professor Davis and several of her colleagues have recently shown that the sedimentary pollen record of the chestnut decline is the only other event in the past 10,000 years that resembles the hemlock decline.

Because hemlock was such an important forest component, its disappearance led to successional responses from many other species of vegetation. Our data suggest that each site had its own successional sequence after the hemlock decline, with immediate responses in several different species.

Not every hemlock tree was killed by the purported pathogens. Paleoecological studies of sites across the Northeast show that the local hemlock populations gradually recovered and, after a few hundred years, once again became an important forest component. The logical assumption is that a few individual trees were resistant to the pathogen and formed the core of the reestablishing populations. This could be a case of natural selection leading to an increased abundance of a genetic strain that is fitter in the presence of new pathogens.

Recovery of Hemlock, Beech, and Birch Forests: 4,000 to 1,000

Once the hemlock populations began to recover, the forests came to resemble those present before the hemlock decline 5,000 BP. At several sites in Maine, these later forests had as much or more hemlock than the earlier ones, though this was not true in most areas where hemlock occurs today. Thus, we can say that conditions in Maine were especially good for hemlock both before and after its dramatic decline. But these forests dominated by hemlock, yellow birch and beech, did not persist in high abundance up to the present. Long before European settlers began to cut the forests of Maine, such forests were already in decline.

Development of Maine's Modern Forests: The Past 1,500 to 1,000 Years

Beginning about 1,500 to 1,000 BP, elements of the boreal forest, notably spruce and fir, began to increase in abundance along the southern margin of their range from Maine and the Canadian Maritimes to Minnesota. The forests of abundant spruce and fir so notable in parts of Maine today had barely become prominent in our landscape by the time our Colonial predecessors arrived. The southward expansion of these boreal species may advance the theory that the climate of north-temperate latitudes has become increasingly cool over the past millennium.

Another interesting insight from the fossil record is that hemlock populations had already decreased dramatically before they were so heavily cut for tanning bark during the last century. Nor was white pine nearly as abundant in Colonial times as it had been in the early part of this interglacial. Even though these two tree species were common enough to serve as the basis for major industries in Maine, they were relatively scarce compared with their populations at earlier times, when growing conditions evidently were more favorable for them.

The effects of various human disturbances in the last few centuries are also evident in paleoecological data. The clearing of forests for agriculture in southern and northeastern Maine is amply revealed in the sedimentary record, as is the reforestation of these same areas after farmlands were abandoned in this century. The great abundance of white pine today in southwestern Maine is unique in the past 7,000 years and is largely a result of agricultural abandonment.

Paleoecological studies have shown conclusively that the vegetation we see today is but one transient configuration in a sequence of vegetation that has changed dramatically and sometimes rapidly during the past 14,000 years. Although we are tempted to think of the "forest primeval" in remote areas of Maine as being ancient and long-lasting, the record shows that it has changed markedly many times since deglaciation.

Looking to the future, our forests and landscapes will probably continue to change as the end of the present interglacial approaches. And chances are high that thousands of years from now these changing landscapes will be overrun by another great ice sheet.

George L. Jacobson, Jr., Department of Botany and Plant Pathology, and Ronald Davis, Institute for Quaternary Studies, University of Maine, Orro. This article originally appeared in Habitat: Journal of the Maine Audubon Society, January 1988. We are grateful to the editor of Habitats, William P. Hynes, editor of Habitat, for permission to reprint it.
Status of Biodiversity of Northern Forests--'Poor & Declining'

by Malcolm L. Hunter, Jr.
Professor of Wildlife Biology
University of Maine -Orono

1. How would you assess the current status of the diversity of biological resources in the Northern Forest region?

This question can be interpreted in two ways: 1) what is the status of biological diversity and what methods would I use to assess the status of biodiversity? It is impossible to answer the first question beyond some broad generalities such as "poor, and declining" or "better than in southern New England, but worse than in Quebec." Answering the second question fully would involve describing a comprehensive program for surveying the status of biological diversity at the species, ecosystem, and genetic level for the region. A truly comprehensive survey is not feasible because it would involve a huge suite of species—notably invertebrates—about which we know almost nothing. More realistically, we could focus on species for which we do have information—vertebrate animals and vascular plants—and more importantly, ecosystems. I suggest three steps:

(a) Collate a master list of species of management concern (endangered, threatened, etc.) in the Northern Forest region from the statewide lists that have been developed by each of the four states (this has been partially done; I think for all vertebrates and endangered plants) and assess the sensitivity of these species to current and projected land use changes.

(b) Repeat the same process for species that are not currently listed by state agencies, but which are known or suspected to be declining. Data for this exercise may be available only for birds.

(c) Develop an ecosystem classification system for the region and determine which ecosystem types are not well-represented in protected areas. Ideally, according to standards suggested by the World Conservation Union, 10% of the area of each ecosystem type should be protected in an array that is spread out across the region. Also, assess the sensitivity of different ecosystem types to current and projected land use changes.

I have listed these steps in order of the ease of implementation. In terms of their importance, the order is Step c, a, b.

2. If current land use patterns and trends continue in the Northern Forest, how will the diversity of biological resources be affected?

(a) Species associated with old forests will decline as more and more of the land base is managed for even-aged stands cut on short rotations.

(b) Opportunities for restoring forests as surrogates for old-growth forests will be lost as forests that have been minimally disturbed by previous harvesting become less and less common.

(c) More and better roads will allow people greater access and some species will be over-harvested such as pine martens and bobcats and many species of fish. The opportunity for restoring large, shy carnivores such as wolves and mountain lions will be diminished.

(d) Species associated with riparian ecosystems—shores of lakes, rivers and streams—will diminish due to second home development.

3a. What is the single most useful recommendation the NFLC could make to enhance biological resource diversity?

Protect a representative array of ecosystems broadly distributed to represent the region's geographic diversity.

3b. What is the single worst thing the NFLC could do, or fail to do?

The NFLC could assume that we have the knowledge to manipulate ecosystems in ways that protect or enhance all their values—economic, ecological, aesthetic, etc.—and that we have the will to act upon the knowledge. I think this assumption is optimistic at best, arrogant and dangerously wrong at worst. We need areas that we do not manipulate.

Biotic Integrity In The Northern Forest

Stephen C. Trombulak
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Anyone who interprets scientific information is guided by an ethic that helps them determine whether the patterns they observe are good or bad. This is especially true for the remarks that you will hear today, because answers to the questions that the Council has asked us to consider are good and bad and are the part of the Council. Therefore, let me start by identifying the ethic that forms the context for my comments. After several years of work in the fields of ecology, wildlife biology, and conservation biology, I have come to accept the ethic formulated by the noted wildlife biologist and game manager Aldo Leopold. This ethic, the Land Ethic, is that something is right as nature operating under its own principles in its own time.

To understand the fundamental constraints ecological and evolutionary principles place on the human behaviors that can be sustained in the Northern Forest, the Council has asked four questions.

1. How would you assess the current status of the biological resources in the Northern Forest region; specifically, what species, if any, are threatened? What information exists to support this assessment?

The answer to the specific sub-questions here are fairly straightforward, and can easily be obtained from the wildlife departments of the four states in the region. These lists include such flagship species as the Bald and Golden Eagles, Peregrine Falcon, Canada lynx, and pine marten. Also included are several species of lesser public notoriety, such as the box turtle, chorus frog, northern bog lemming, small-footed bat, and Sedge Wren. All told, more than 100 mammals, birds, reptiles, amphibians, fish, invertebrates, and flowering plants are listed by the four states.

However, these lists are terribly incomplete if what we want to know is what species are at some level of ecological risk and therefore must be considered when making decisions regarding the biotic integrity of the Northern Forest. Rather than list them all, it is more straightforward to simply list the groups for which there is evidence of species decline in areas that include the Northern Forest. Most notable among these are songbirds and ducks. However, other groups have been identified as being generally threatened, including all vascular plants, in which a recent survey by the Center for Plant Conservation suggests that 10% of all known plants in the U.S. are at risk of extinction; fungi, where recent surveys have shown a decrease of species diversity in Europe of 50% in the past 40 years; and amphibians, which due to their extreme sensitivity to water quality, soil pH, and soil moisture have shown dramatic declines worldwide.

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To the potential criticism that some of these patterns are documented only on a broad geographical scale and not specifically for the Northern Forest, I respond that the Northern Forest is not unique in any ecological way. The following factors have been shown to play a role in threatening biotic integrity:

1. Biological diversity
2. Global warming
3. Forest clearing
4. Habitat fragmentation

All of these factors are documented only on a broad geographical scale and not specifically for the Northern Forest, I respond that the Nordic Forest is not unique in any ecological way.

First, it places a focus solely on the status of a specific species, while it is important to understand that biological diversity is more properly viewed as diversity at all levels of biological organization, including genetic, ecosystem, and landscape levels, as well as that of the species. A species may be fairly widespread, yet the loss of a genetically unique population would still be a loss for biotic integrity. A species may have more than the minimum number of individuals necessary to maintain a population, but they may all be so genetically uniform that the species will not have the natural variability to survive some future environmental stress, such as a change in climate, a decrease in air quality, invasion by some exotic pest, or the spread of a disease. Therefore, the importance of biotic integrity is also dependent on more than just retaining species. Maintaining the abiotic components of ecosystems (such as nutrients, water, and climate) and their links with biological communities, as well as maintaining the distributional patterns of ecosystem types across a landscape may be the most vital aspects of maintaining biotic integrity.

The second problem is that a focus on threatened species looks only at those that are currently at risk, and population levels are at that kind of immediate risk. It ignores those species that have already been exterminated or may have been critical to ecosystem function. It also ignores those species that we simply have not and probably will not discover and name. As a conservative estimate, we have identified less than a fifth, and maybe less than a fifth, of all the species on Earth. It would be crazy to suggest that all restoration, management, and development plans be put off until a complete species inventory is made.

Third, a focus on species alone feeds into the incorrect thinking that the life on Earth can easily be compartmentalized and categorized as "resources." We should think for just a moment about the title of this discussion: Biological Resources Diversity Forum. By definition, resources are things that humans put to use for a purpose. If we limited our concern only to "biological resources," we would be talking only about the diversity of a very small subset of organisms in the Northern Forest. Because the persistence of any species is dependent upon the integrity of the entire biotic community, such a narrow focus is doomed to failure. We then go on to talk about how to avoid wasting our time, which is the diversity of all life, whether we have a direct use for it or not, and how the actions of humans affect that diversity in the Northern Forest region. Consequently, I reject the idea that we should discuss only "biological resources" and use the term "biological diversity" throughout the remainder of my comments.

2. If current land use patterns and trends continue in the Northern Forest how will biological diversity be affected?

Several different patterns and trends in land use are found when one starts from the wilderness preservation to extremely large-scale clearcutting. With respect to the disruption of biotic integrity, the pattern for the Northern Forest is clear: most (but not exclusively) is that of large-scale clearcutting and the use of ecologically disruptive timber-harvesting methods. One significant factor is the size and shape of the portion of the forest in an area, as the size, shape, and distribution of the clearcut areas, the patterns of connectivity among the fragments, and the degree of habitat heterogeneity within the fragments. The ability of the forest to recover from the disruption also depends on the presence of undisturbed habitat to act as source pools for recolonization and the time allowed for the disturbed areas to recover. It should be recognized that ecological disruption will occur whether the forest is cut for the trees or to make way for buildings. The critical elements are the spatial configuration and pattern of the clearcut areas.

No one would suggest that any type of land-use practice, except as aboveground nuclear weapons test, is harmful to all life. Forest clearing increases the density of species that thrive in open places, such as deer, coyotes, ground hogs, and blue jays, and also increases, at least initially, the number of species at the edges of clearcutting. But to assign a value of positive or negative changes to the species found in an area one must ask whether the species being enhanced are themselves threatened with genetic or demographic reduction. One must also ask whether biotic integrity on the region is increased or decreased by the changes. It is not as hard as some might think to decide whether the rise in one species at the expense of another is good or bad. We do not need to know whether the species on the rise is a part of the natural ecosystem, whether it is threatened globally or regionally, whether its rise will disrupt ecosystem processes (such as processes which remove nutrients), or have negative impacts on other species. What we must do is determine if each decision has its basis in the effects of changes on biotic integrity, and not in moral relativism or public opinion polls.

3. What is the single most useful recommendation the NFLC could make to enhance biological diversity?

We do not know enough, and will probably never know enough, to list all the specific rules for the successful operation of a natural system. To promote biotic integrity we are much better advised to develop policies that allow nature to function on its own. Such policies would allow natural ecological and evolutionary processes to occur, humanity and the rest of the biological world can then exist indefinitely within the framework of ecosystem operation. The best recommendation the NFLC can make is that land-use policies should be implemented that promote biotic integrity. Such policies should have the following elements:

1. They should view the forest on a landscape scale. This would involve:
   a. Development of a forest ecosystem large enough to allow persistence of ecological functions and evolutionary processes, and to act as source pools for the re-establishment of biological communities in disturbed areas.
   b. Establishment of buffered areas around the core reserves, in which human disturbance can occur but is minimal, to allow both for the minimization of fragmentation effects and for connections among core areas.
   c. Consideration of practices on regional scales, such as watersheds, rather than over the entire Northern Forest.
   d. Consideration of habitat diversity within each region.

2. They should minimize human disturbance. This would involve two important elements:
   a. Patterns of natural disturbance ought to be our guide for what constitutes acceptable land-use practices.
   b. Patterns of natural disturbance should be used to assign their size, frequency, and effect on soil and other ecological features.

3. We should also have a prescription against pesticides.

4. They should promote restoration of intact ecosystems with full complements of native species, including the re-establishment of mixed species forests, using both natural physical and age structures and patterns of successional change, removal of exotic species, development of barriers to the introduction of exotic species, and the reintroduction of extirpated species.

4. What is the single worst thing the NFLC could do or fail to do?

The single worst thing the NFLC could do is to promote policies that ignore the basic principles of ecology. If we want to enhance the diversity of species within a healthy Northern Forest landscape, these policies are no more optional than is the Law of Gravity. Several of the re-establishment practices exemplify the failure to consider the primary ecological principles. In addition to those I've already mentioned, I would add the fragmentation of the forest, and the introduction of exotic species for recreation.

I complement the Council for arranging this Forum. I hope that as a result of all the comments you hear today you come to recognize that everyone involved in the debate about the future of the Northern Forest has little choice but to focus on two key questions:

1. What must we do to restore and maintain the ecological integrity of the Northern Forest?
2. What must we do to develop socio-economic policies that operate in conjunction, rather than in opposition, to the laws of nature.

These are the questions that demand our attention.
Traditional Land Uses & the Biological Diversity of the Northern Forest

by Sharon G. Haines
Manager, Forest Environment
International Paper

Most of my opening comments will relate to process rather than to technical issues. I'll be drawing on my recent experience in leading a consensus building exercise on biodiversity for the President's Commission on Environmental Quality. The PCEQ initiative is comparable to the NFLC effort because decisions were based on consensus and individuals with a wide range of views participated. I hope that the Council will find these comments useful as it moves forward with a biological resource initiative.

What is the current status of the diversity of biological resources in the Northern Forest region? What species, if any, are threatened? What information exists to support this assessment?

I'm compelled to defer to regional experts on the substantive response to this question. My panel colleagues have and will identify specific data bases within the region on the diversity and health of the resource. Some of these data bases are reasonably comprehensive while others have substantial gaps in coverage.

It is important to note that the need exists for continuously more detailed information about the resource and the effects of forest management practices on the resource. We need information that is reliable and will provide the necessary data to accurately monitor trends and identify species/communities of concern. Obviously, the earlier we can identify species/communities of concern, the quicker we can respond. The equivalent of overall health and productivity, we need to support research in other areas.

In this light, it's important for forest industry to examine effects of forest management practices on the overall health and productivity of the resource. In addition to the work we normally do to monitor silvicultural growth, stand development and the like, we need to support research in other areas.

International Paper, for example, has funded research at Penn State University on the effects of clearcut size and shape in hardwood forests on breeding-bird communities. Yohn and Yahner have found that these communities in clearcut stands have higher densities and richness than those in non-clearcut stands. The majority of species nesting in clearcut stands are neotropical migrants. Their research leads Yohn and Yahner to conclude that clearcut size has a direct effect on the breeding-bird community. They also believe that even-aged management has contributed positively to maintaining populations of many songbirds that are common on these even-aged stands in the Northern Forest. Clearly, these studies don't fill the entire knowledge gap on the resource overall. But they do make meaningful contributions in areas where information is limited.

If current land use patterns and trends continue in the Northern Forest, how will the diversity of biological resources be affected?

This one calls for a crystal ball, and I must say that my track record is not too good with this "scientific" method. When considering the future, one key question to ask is: "How reliable is the available information on current patterns and trends?" Is statistically definable data available or do we simply have a lot of opinion, especially as far as future trends go.

One thing for sure, International Paper is aware of at least some of the ownership trends. Our nearly 100 years of continuous ownership in the Northern Forest is a clear demonstration of our belief that ongoing forest ownership in this region is important both environmentally and economically.

I believe that one must remember that today's northern forest is the ever-changing result of several hundred years of man and nature's activities. Nonetheless, we often pay more attention to the impacts man has over the long term than to the natural processes at work. Natural processes change the forest in dramatic ways with or without human干预. In looking at trends, we need to assure that neither changes caused by man nor nature are ignored.

What is the single most useful recommendation the NFLC could make to enhance biological resource diversity?

When dealing with a biological system, it's extremely difficult to single out anything, to identify the best or the worst, given all the interfaced processes at work. Additionally, it's one thing to recommend and another to make something happen. That said, the major thrust of the NFLC recommendations would be to continue accumulating the necessary data to make more informed decisions.

Yes, there is a pattern here. I firmly believe we must continue to broaden our understanding of the resource and ecological processes at work in the forest if we expect to make the best decisions. That does not mean inaction or continuing the status quo until we have all the answers.

It does mean a continuous, long-term commitment to research in order to implement this ongoing commitment to implement changes into standardized management practices as new information becomes available. Some people call this adaptive management. I call it continuing improvement—working to constantly improve forest resource management from my company's view.

This will require action on two fronts. First, research. We continue to need information about some of the basic ecological principles at work in the Northern Forest. In that sense, this region is no different than other sections of the country. Helping to assure that funds are available for the needed research will clearly be critical. Equally important will be the need to help assure that the best minds available are conducting the research. I'm a great believer in competitive grants research funding. Give the money to the best teams of people who have the capacity to do the best job.

Second, monitoring the results of implementing research findings into operational programs. Simply funding good research will be of little consequence unless the research is actually put to use. Monitoring needs to be approached in just as careful a way as the research. Systems for assessing impacts of various operational practices on the biological resource must be designed and implemented to assure that we obtain meaningful information. Only then will we be able to adapt management practices as new information becomes available.

What is the single worst thing the NFLC could do or fail to do?

In my view, the worst thing that NFLC could do would be to further exacerbate the "either-or" tone of the ongoing debate. The maintenance of a viable northern forest does not require an "all or nothing" solution but because it is not an "all or nothing" situation. It is not harvest versus preservation, business versus environment, man versus nature.

An either-or debate almost always leads to a lose-lose outcome. The overall goal should be to establish policies that will help the various groups of forest landowners maintain their forest ownership. These policies will not out of necessity have to develop some kind of balance between economic and the environment. Or the environment and economics—whatever your perspective. To conserve environmental quality and to maintain the region's economic viability, we must have a balanced solution.

To make a real difference, all of us have to be a part of a central core of reasoning people who will solve the issues facing the Northern Forest. And the same holds true for other regions, the nation and the globe. All of us must be willing to listen and to carefully consider divergent views on the issues, as well as to clearly articulate our individual views and those of our constituencies. Then we must take the best parts of all the proposed solutions and develop the consensus solutions that will be most viable.

That means acknowledging the fact that no one of us has all the answers---Not so easy to do! That means commitment to working toward viable solutions. Not so easy to do once we realize the solution isn't likely to give us all that we would prefer. And not so easy to do for groups whose very existence depends on controversy rather than solutions.

Consensus building. Not easy, but, in my mind, the best way to develop solutions that will conserve the environmental quality of the Northern Forest and maintain the region's economic viability.

Species Diversity Quiz

(Answers on Page 31)

How many species have humans named?
(a) 100,000 b) 1.5 million
(c) Between 10 and 30 million (d) Nearly one billion

How many of these are animals?
(a) 50,000 b) 500,000
c) 1 million d) 5 million

How many of them are insects?
(a) 150,000 b) 250,000
(c) 500,000 d) 750,000

How many of them are beetles?
(a) 25,000 b) 50,000
(c) 200,000 d) 375,000

How many species do we estimate there are on Earth?
(a) Less than 2 million
(b) Approximately 5 million
(c) Between 10 and 30 million (d) Nearly one billion
The fact that this interstate council exists at all is a testament to exceptional foresight and dedication. Too often, potentially good solutions to conservation problems are compromised by the political boundaries of principalties, states, or nations. Also, the council’s approach is a refreshing look into the future. Dedicated to cooperation between public and private landowners to achieve its conservation ends, this approach may be the only viable one as we march into a gray future of starved state budgets and fiscally over­strained governments. Following is a brief commentary in response to the Council’s three questions:

1. How would you assess the current status of the diversity of biological resources in the Northern Forest region; specifically, what species are threatened? What information exists to support this assessment?

Concerning biodiversity, there is good news in the Northeast. We are currently witnessing reforestation on a grand regional scale, a point completely missed by the news media as they focus on Brazilian deforestation. As successional forests have spread over our abandoned farmlands, a tree landscape is once again dominant in the Northeast, partially restoring to us conditions prevailing here before the 1800s. Now, within a few miles of the Boston-New York City corridor we have healthy populations of all kinds of wildlife, including fauna such as the black bear (Ursus americanus), moose (Alces alces), white-tailed deer (Odocoileus virginianus), and turkeys (Meleagris gallopavo). Added to the return of their forest habitat and good management by our state wildlife departments, the presence of these species is a very positive indication of improving ecosystem health. These species are in effect ecological miners’ canaries. Similarly, sensitive, threatened, and endangered species such as the bobcat (Lynx rufus), osprey (Pandion haliaetus) and bald eagle (Haliaeetus leucocephalus), peregrine falcon (Falco peregrinus) are once again common in our forests. These management accomplishments are a testament to the high quality of existing state agency and university programs addressing the needs of individual species. One example of such a program is a computerized inventory of wildlife species developed by New Hampshire’s Department of Fish and Game.

However, “there is trouble in River City.” Even as we are encouraged by reforestation and the return of native wildlife, our forests continue to be threatened by ecological disasters. I am referring to the continued erosion of tree species as a result of imported pathogens from Eurasia. We lost the chestnut (Castanea dentata) to chestnut blight and most of our American elms (Ulmus americana) to Dutch elm disease. We are currently losing beech (Fagus grandifolia) to beech scale dieback and most of our eastern hemlock (Tsuga canadensis) stands are being devastated by hemlock woolly adelgid moving north from Shenandoah National Park. Some segments of the Adirondack wilderness forest resemble a hurricane aftermath as fully one quarter of the old-growth–the beech component–has fallen. Losing the beech, a major component of the northern hardwood forest, renders the remaining species, particularly maple, more vulnerable to future disease. The loss of these trees will have major consequences for biodiversity of plants and animals in the Northern Forests. In my opinion, vulnerability of our tree species to imported pathogens is a major problem that needs to be addressed.

2. If current land use patterns and trends continue in the Northern Forests how will the diversity of biological resources be affected?

Much has been written about the potential effects of forest habitat fragmentation on wildlife diversity, particularly in its effects on bird species richness. However, in my opinion, the “forest island” paradigm has little value in the relatively continuous northern forests. Recent research in the central Adirondacks has shown that alpha (within habitat) bird species diversity was little affected by intensive logging (a shelterwood cut). Indeed, the logged area had a higher bird species diversity than an uncut (wilderness) northern hardwood stand. While there are a few bird species temporarily eliminated in a cut area, diversity on a beta (between habitat) scale would be relatively unaffected, given the normal distribution of rotated forest stands. In short, this and other studies suggest that for most wildlife, habitat fragmentation per se is not a problem in the Northern Forest.

However, penetration of managed forests or public natural areas by extensive road networks or intensive recreational development can have strong negative effects on megafaunal survival. Examples are species such as the moose and black bear. In our efforts to reforest 1.5 million acres (Lynx canadensis) in New York’s Adirondack region, we have found that most mortality (e.g., road kills, incidental human killing) occurs in and near developed areas or areas penetrated by extensive road systems. The probability of road fatalities and the potential for road barriers to the survival of megafauna are so large that their probabilities of encountering death are greatly increased. For example, the average utilization area of lynx in the Adirondacks is 1760 km sq. (690 mi. sq.). One way to enhance megafaunaf diversity in the Northern Forests (i.e., enhancing survival of existing species and enhancing conditions for restorations) is to identify large forested blocks of both public and managed private lands as refugia where recreational development is limited to hiking trails and logging roads on private land, closed to vehicular traffic for long intervals between cutting cycles. Logging roads would remain open only to pedestrians for hiking, hunting, fishing, camping, etc. The private landowner would collect a fee for public use and a tax easement from the state for sacrificing vehicular access to recreationalists. These roads would be opened periodically for logging. Under the shelterwood cutting scheme, these roads would be closed for periods up to 50+ years. An additional benefit of a long cutting cycle over selective cutting is less soil erosion by logging machinery.

Current trends in the succeeding sale of private forest lands continue (e.g., the Champion International Co. and the Lyons Falls Paper Co. recently put 115,000 Adirondack acres on sale), the integrity and biodiversity of Northern Forests continues to be compromised. Tax reductions and conservation easements are essential to reverse this trend. They can be effectively used in the context suggested below.

3. In the context of the NFLC Mission and Operating Principles:

a. What is the single most useful recommendation that NFLC could make to enhance biological resource diversity?

My primary suggestion is entirely consistent with NFLC’s excellent guiding principles and recommendations as put forth in the Governor’s Report. The purpose of this recommendation is to enhance survival of megafauna, either existing or to be restored, in selected tracts of public and private land. The recommendation is as follows:

As a first step, identify strategically located tracts of juxtaposed public and private lands that can be consolidated into large blocks. These blocks may alter­natively consist of private or public lands only. These blocks, selected by competent professionals, are designed to function as megafaunal refugia. Tracts with unique ecological features or unusual biota can be combined in such blocks.

The extent of vehicular road penetration would be minimized (possibly less than 0.2 mile of road/ sq. mi.). Logging road networks on private land would remain closed between cutting cycles. Some long-cy­cle cutting scheme (like shelterwood cutting) accept­able to the landowner would be specified in the agree­ment. The landowner could charge user fees for pedes­trian recreation including hiking, hunting, fishing, and camping. The values of a high quality wilderness ex­perience would be emphasized.

Estimated income foregone by the private landowner from intensive recreation, cabin leases and vehicular access would be reimbursed by state and local tax reductions and/or conservation easements. The unique feature of this strategy is its combination of tactics. Besides the suggestions made here, there are other alternative strategies for maintaining private open space, within potential megafauna, including legis­lative approaches used by The Nature Conservancy and various Land Trusts.

Finally, I cannot resist making one additional rec­ommendation. The Northern Forest Lands Council might strongly consider a strategy or program of mon­itoring and/or pressuring State and Federal agencies re­sponsible for preventing importation of forest diseases. It is essential that we stop erosion of our tree species complex. "Enhancing the forest—yes; the last question. In light of NFLC’s excel­lent judgements to date, the "single worst thing" it might implement is not conceivable!"
Q (from Charles Cogbill): What short-term recommendations would you make to the Council?
Malcolm Hunter (MH): We need to develop a common classification system for ecosystems across the region, and we need to undertake a survey to see which of those ecosystems are currently adequately protected in public land and which are not.

Rainer Brocke (RB): We need long-term studies, not just short-term studies.

Sharon Haines (SH): I have to agree with an approach similar to Mac's. We need a summary of what we do know.

Steve Trombulak (ST): In the short-term we need to pull together a conference, advertise it widely, invite anybody who's done any kind of biological research in the very diverse ecological regions that make up the Northern Forests and find out what we do know and what we don't know.

Q (from Richard Dressler): How big should we reserve be and what do we do in the areas that are not set aside and still address biodiversity?

ST: You have to establish the reserves so that they are large enough to protect the wide-ranging animals. [A reserve] 100 acres in size will not protect that many lynxes. In terms of what you do with the other land, you definitely need to provide a buffer to the core reserve. You can't have clearcutting on a national forest that comes right up to the boundary of a national park and expect there not to be some kind of effect on the park. In terms of any land use practice, you need to ask what's the impact of that practice instead of what's its relationship to some reserve set aside elsewhere. I'd hate to say 'Can we have land use practice X, such as a toxic waste dump, and is that going to have an effect on the reserve?' The question ought to be what's the effect on biotic integrity right where that dump is.

Q (from Jeff Schloss): What is the most important piece of missing information that you think could better help us to come to a consensus about what the state of biodiversity is in relation to the Northern Forests?

ST: We've got to stop putting it in terms of: "Tell me the right thing to do." We've got to do lots of different things. Some of the important things we need to do are: (1) It's very difficult to find any data on what the trends are. We have to look at satellite imagery and looking at trends over time much more seriously. (2) I think we need to have a much better understanding of what the natural processes are in the ecosystems in order to understand what it is that we are doing to them. It's not to say we shouldn't do anything. We know everything. One of the panel members made the suggestion that we have to not make decisions unless we have all the data. If that were true, we wouldn't do anything. It's not that we have to have the data about how our ecosystems function before we can do anything, but we do need some more information to understand how our actions are going to effect those. I think we need more information on genetic variability within population within the area. We focus a whole lot on whether we save this stand that has three or four individuals of this one tree or this one pond of frogs, or this one northern-most extension of population, but we are still focusing on the species level, which I think is inappropriate.

SH: We don't have to have everybody doing the same thing. For industry this focus on the impact of actual management activities is something that we could make a major contribution to that discussion while someone else is doing the genetic diversity work...

MH: I think its a two-tiered problem. (1) You've got to link what's happening to species with what's happening to ecosystems, how we're using ecosystems... And then to understand what is happening at the ecosystem level it's a matter of remote sensing. We can tell a lot in terms of land use changes very efficiently with remote sensing and GIS (Geographic Information Systems).

The Key to Intelligent Tinkering is to Save All the Parts

Carol Reschke of the New York Natural Heritage Program summarized available information on threatened and endangered species in the December 3 forum on Biological Diversity Resource. The heritage programs conduct statewide inventories of species and natural communities. They were developed by the Nature Conservancy as the first step in a three-step process to protect biodiversity. Steps two and three are protection and management of habitats by public and private agencies. 

Heritage inventories are conducted on two scales: inventories of rare species and the best examples of different types of communities that occur in the region. 

Data from the four state heritage programs of the Northern Forests region reveals:

*585 taxa are species of concern (this list includes a few subspecies and varieties, but primarily consists of species). Not all are legally listed by the state, but these are all species that are considered in the range of S1 or S2 or SH (historical). This means that there are fewer than 30 occurrences of a given species in the state, or the species has not been known recently in the state, but historically the species was (i.e. wolves).

*O species are federally endangered under the Endangered Species Act. Endangered animals are: peregrine falcon, bald eagle, indiana bat, Xerces blue butterfly, and dwarf wedge mosquito. Endangered plants are: Turkish iris, Rhytistos circinatus, small skunk cabbage, and a bulbil. In addition, the white fringed orchid is listed as federally threatened.

*Of the 67 types of natural communities documented in the Northern Forests region, 31 are forested communities.

Ms. Reschke noted that there is a need to update field surveys, especially in the Top Hill region. Community and rare plant inventories need updating in New Hampshire. Community inventories need updating in Maine.

She also stated that funding is needed to develop GIS (Geographic Information Systems)--a computerized mapping system that is invaluable tool for reserve design work.

She warned the NFCC that the "single worst thing" it could do is "to make blind, unscientific recommendations on land use management based on emotions or fears without adequate supporting data. The first step of wise management is to determine how much is available of each type of resource--species, communities, ecosystems, and then to plan the use of these resources so that you don't deplete the resource base."
The Northern Forest Lands Council Questions Biologists

Q (from Ted Johnston): [Asks about a National Academy of Science Ecosystem Management initiative that coordinates various independent initiatives and brings them under common initiatives.]

ST: All of us agreed that we need to move the things away from biodiversity away from this fixation on species as the be-all and end-all of everything. If we don't start thinking about ecosystems, understanding how they operate, what the components at lower levels and how they connect at larger levels, we're not going to do anything except argue amongst ourselves about the next spotted owl. The focus on biodiversity is definitely the way we have to go.

Q (from Paul Bujinger): [Given that shelterwood harvesting permits you to shut down roads between harvestings, what do you think of a shelterwood approach as opposed to individual tree or group selection?]

MH: We need to think of harvesting techniques that are as close to nature. The tool is going to work best all the time. I would argue that clearcutting is being overstated at this time, but I wouldn't want to replace it with shelterwood cutting either. [The question should be:] How good a job does the harvesting tool do in terms of imitating natural disturbance regimes? If we are talking about true boreal forests, which we don't have in this part of the world, large clearcuts that imitate very large catastrophic fires might be most appropriate. If we are talking about disturbance where individual trees grow old and fall down, then perhaps individual tree selection is most appropriate. If we are talking about disturbance where individual trees grow old and fall down, then perhaps individual tree selection is most appropriate. By and large they are, genetically uniform monocultures of one single species. Why do these pests not take over natural systems? It's because they're not monocultures. There is a large diversity of species. It's been shown repeatedly that the ability of a pest to attack one species is very much restricted if there are other species within that ecosystem. As a general rule we have pests therefore we have pesticides. I'm not sure that's a good one.

Q: [from Jerry Bley] Of the two potential threats to biological diversity that Dr. Trombulak mentioned—development and forestry—is one of more concern than the other?

MH: They both concern me. The relative weight would be site specific. If we are talking about the southern fringe of the Northern Forests, the places most accessible from urban areas, then it's going to be development. When you start talking about areas the far side of the St. John River in northern Maine, development is not an issue, and it comes to an issue of forest practices.

RB: ...the more we learn about development, the more we find that it has very profound impacts upon the movements of animals in particular. And when we're speaking of development here, even a road that is open to vehicular traffic has effects because it carries in a segment of humanity that may cause problems... Building cabins that are spread all over our development, these are major problems. And in terms of biodiversity, they cut off the movements of animals, like salamanders, from their ponds. In the case of megafauna, they are just plain sources of death. One of the biggest sources we've discovered [in the lynx recovery program] is just plain auto collisions. And when the reproductive capacity of the animal does not exceed the death rate of these various causes you just aren't going to have a population. And there are other effects too.

SH: Overall I would think that development would be the greatest threat. I think there are some things we can do in terms of modifying management activities can be done a lot more easily than dealing with losses as a result of development.

ST: Both concern me... Downtown New Jersey is a bigger problem for the dispersal of organisms than upslope. [Trombulak has mentioned. The conference gives you an opportunity to bring together a wide array of people, get lots of ideas on the table and try to identify as many options as you can about things that you might be able to do. [The advantage of smaller groups is it allows for a much more intimate exchange of information for actually going into the levels and seeing what you're talking about, rather than sitting in a room.]

ST: I think it's a great idea. I keep mentioning the [conservation biology research] conference only because if I say it often enough it will happen. But to the educator, there's no substitute for getting the people who are out there doing this living on the land to understand what these principles are.

Q: (from Brenda Watcher) [Regardiencing the integrity of ecosystems, he noted that some ecologies such as Norway spruce and red pine plantations are relatively common in the region. Is it inevitable that we'll have a "worldwide ecosystem"? And should we try to protect the "sacrosanctness" of native systems?]

Charlie Cogbill (CC): We live in a global ecosystem. It has been connected, and it has always been connected...

MH: If you allow yourself always to bring the entire sweep of human activities under the word "natural", then you make the word now completely useless. You have to remember that there has been life on this planet for three and a half billion years, and we've only been around for for a couple of million years. Industrial humanism is a very recent phenomenon to which other organisms have had little time to adapt. Given that fact, we need to set aside pieces of our landscape where natural processes will continue to happen. That doesn't have to be the whole landscape, but there's got to be some portions out there that we try to keep them in that condition recognizing that our influence is a very recent phenomenon. It's analogous in geological history to the meteorite that hit the earth and took out the dinosaurs. And to make life better for us, we need to mitigate that kind of impact as much as possible.

RB: These species that we see as a problem are not good or bad, per se. They evolved in a given location and they evolved with a set of organisms and processes in nature that kept them to some level at which they didn't have major perturbations in the ecosystem. There's no problem with the zebra mussel in the Black Sea area, but now the zebra mussel is going to have apparently a major impact on our salmon fisheries and all sorts of things may happen as a result of that. If it hits a key species in our ecosystem we're going to have to live with an adjustment of that ecosystem for quite a few hun...
I don't think that should prevent us from trying to stop it. Just because things are inevitably going to be a challenge does not mean we should not try to prevent it. **BW:** Are Ringneck pheasants and Norway spruce benign exotics? **ST:** Those are clearly examples of introductions that have had no noticeable effect on ecosystem integrity. Does that mean we should just blithely introduce exotics everywhere just because some of them turn out to be OK? I think we tend to get lucky. I think with more research we might become better at predicting those introductions that will have no obvious effect on natural processes and the persistence of those species that were there to begin with. And those introductions that have a devastating effect, I think we should be damn careful about the introductions that we make, and be grateful for the ones that didn't cause problems.

**Q:** (from Neil Woodworth) You all have convinced me how daunting the task of determining from a species perspective where we stand in terms of protecting these biological resources. However, the one thing I did gather... is that we are in much better shape in terms of determining natural communities and ecosystems. **MH:** Absolutely. **NW:** We have a whole range of protection strategies ranging from fee acquisition to voluntary partnerships that Dr. Haines spoke of that we could employ once we know what the definition of adequate protection is.

**ST:** I think there are two parts to your question: one is if we can't tell what's natural, how do we make decisions, and the other is since we live in this global economy if it's inevitable, why should we do anything? Horses evolved in North America. They went extinct about 10,000 years ago. They were reintroduced by the Conquistadores. They are now feral in parts of North America. They went extinct in European and Norwegian bushy tits. Are Ringneck pheasants and Norway spruce benign exotics?

**ST:** I thank you.
Natural disturbance regimes in the region and how do current forestry practices mimic them and diverge from mimicking them, especially large clearcuts in the industrial forest? How do large clearcuts mimic natural disturbance?

A few studies of natural disturbance in presettlement forests: they are varied within the system, but they generally come down to three major ones: major wind, hurricanes coming through about once every hundred years. 1938, 1815 in New England. Fire was a disturbance in some parts of the system, especially in northern Maine. It's not a boreal fire system; it has its own fire regime, the return time of fires is on the order of several hundred years. Finally, just the general wear and tear of winter rains, snow, ice reveals that the average age expectancy of species we have around here is around 150-200 years... You can compare that to what is being mimicked. Size, scale, time span of those disturbances, and yet on a very coarse in terms of scale and size, some of the numbers match, others do not at all. The way that fire, wind and general degeneration goes in a forest is very different. Fungi, for example, wood, in removal of material, whether it's carbon dioxide and burning it up, or taking it off to the city and burning it off. And how it affects the regeneration of the forest at the same scale on the same stand can be entirely different... you can see a lot of things cited were that it may take 10 million years to recover that loss. The other is that there could be an increase in perturbations as the ecosystems have problems with various losses or invasions. It's too bad that what Dr. Trombutak called "stability"... resistance to disturbance, or resilience from disturbance. Secondly, I think I heard an agreement that we need to insure that there is protection of examples of various age ecosystems, with a system of cores, corridors and buffers and that the buffers should be managed in a way that mimics natural disturbance patterns to insure that those cores are not isolated islands, but indeed that there is some sort of ability of species to migrate due to whatever need that they may have. We've got to know what is the best management system in those buffer areas.

Q: (from Jim Bernard): I agree that there is some consensus among all of you that there should be some protected areas, call them ecological reserves, call them whatever you want to. But, having done the ecological reserves design study at the request of the Maine legislature for Maine and other states, I'd like to suggest that there are a number of steps beyond what Dr. Hamer suggested take place. And that is engaging the agencies that manage these lands or would manage lands that are like these in the future so that they understand more about biodiversity and more about managing ecologically special or representative ecosystems. The other thing is all of those agencies, including my own, are absolutely stripped for cash and staff and will be for the foreseeable future. Also, all the four states have acquisition programs that have been very successful and are out of funds or are winding down. What I'd like to suggest to the Northern Forest Lands Council is that it take the time to lobby the federal government to provide funds for a number of those activities: (1) [for the sort of inventory] Mac suggested for the other three states that has been done in Maine; (2) to provide some management funds or some pilot project funds for states that are going to manage these types of areas; and (3) funds that are given to state acquisition programs [not Forest Legacy funds]. Either that they would have to meet a criteria or a set of constraints that the federal government would supply, or that they would outright give it to us to acquire areas that were identified through those processes as being outstanding or representativeness. A lot of us in the states have problems with the federal government coming in and not thinking that we have a better relationship with a number of parties that would be involved. I think the American Forest Council think way down the road and that that ball rolling as well. Richard Dressler: This is one of the issues that is being outstanding at least in terms of fish and wildlife agencies. We've been focused on species management and the other walked off the stage. That's something that has started, really, and part of that process is the federal funding aspect of it. And that's sort of driven over the years. We've done a lot of things that have probably indirectly affected other species and benefited species. But for us to move within the context...
**Old Growth - A Form of Diversity**

**During the audience question period as the December 9 biodiversity forum for the number of people raised the subject of old growth forest ecology. Here are some of the questions and responses.**

**Q** (Jamie Sayen): **What do we know about soils? Can we be confident that human practices we are engaging in are not going to interfere with soils? Does it matter if soils are degraded?**

**ST:** I'm not a soil ecologist, but I've asked a lot of questions about it, and if I had to pick one abiotic component of the ecosystems out there that we need to know about, I'd say it's soils. I strongly suspect that when we do this research priorities conference the people that we've got to get to attend are the ones that know something about soils. I simply can't find good soil maps for the Northern Forest, ones that get it down to the site level. And it's very difficult to find people that know something about the dynamics of the microorganisms and the fungi that live in the soil and their association with the regeneration of forests. It's easier to find someone who knows something about soils and fungi for the tropics than it is for the temperate zone.

**SH:** I wholeheartedly agree with that, and soils is my game. This is not unique to the Northern Forest either. We know a heck of a lot more about what's on top of the soil than we do about the soil system. About the biological processes that are going on within the system. We don't know a whole lot about the long-term sustainability of what the landscape is doing. So if you think of that from my perspective today that we have limited knowledge about the vegetation, we've got even bigger limitations in our knowledge about soil and all of the processes going on there.

**We Know Next to Nothing About Soils**

**Q** (Dave Corte): **Can you tell me about soils?**

**MH:** We don't know a whole lot about the long-term sustainability of the soil. So if you think of that from my perspective today that we have limited knowledge about the vegetation, we've got even bigger limitations in our knowledge about soil and all of the processes going on there.

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Maine - Land of Township-Sized Clearcuts

This high altitude photograph of the Maine Woods west of Baxter State park covers approximately 45-50 square miles. This is a common scene in Maine’s 10 million acre industrial forest. It was taken in August 1991. Courtesy of Beyond the Beauty Strip: Saving What’s Left of Our Forests, by Mitch Lansky, Tilbury House, Publishers, 132 Water St., Gardiner, Maine 04345. (See page 138) Price $19.95 paperback; $35 hard.
Deforestation is Legal in New Hampshire

This 170 acre clearcut at the intersection of Routes 3 & 302 in Twin Mountain, NH abuts the White Mountain National Forest (the trees in the background). Now this cut over land is for sale to the WMNF!

This sort of logging operation is all too common a sight for residents of the North Country. Apologists for the clearcutters claim that the only problems with such clearcuts are "visual". They aren't listening to residents of the region who hate these cuts because they know that clearcuts harm the integrity of forest ecosystems.

NH Clearcutting

by Tamra

SB 128, sponsored by Sena Richard Russman and Represe Burnham, and Gary Gilmore, is Senate. The bill, designed to remove clearcuts, receiv

If passed, SB 128 would requi

forester or approved by the Divis

above 2,700' in elevation, on a

lower headwall at Tuckerman's R.

than 20 acres. Harvest plans 

silvicultural practices for clearcu

Department of Resources and Ec

The bill requires a 300' buffe

sets in motion a process to create 

The fate of this legislation

months. For more information ca

the Protection of N.H. Forests, c

for this kind of legislation, call yo

senai

Photos on
by Stev

Environmental Air Force pilot Rudy i

before takeoff. EAF provides an indispe

you Rudy.
Vermont Permits Forest Liquidation Too

Gornian

Thank you, Gornian. (standing) and Jamie Sayen just when Bill Proposed

ng Bill Proposed

ara Van Ryn

ators Susan McLane, Burton Cohen, representatives Mary Ellen Martin, Daniel was already had a hearing in the NHquire planning for the most extreme ed a lot of opposition.

re a harvest plan, signed by a licensed on of Forests and Lands, for clearcuts pes greater than 35% [Ed. note: the vine is 35%], and for clearcuts larger would have to meet minimum best ts. These would be established by the momic Development through the rule­g process.

r between all other clearcuts. It also a comprehensive forest practices act. will be determined in the next few Il Tammaro Van Ryn at the Society for 03 224-9945. To voice your support or New Hampshire representatives and ors today.

Spring Equinox 1993

The Northern Forest Forum
Adirondack Park - Developer's Paradise or Healthy Landscape? It's Our Choice


The Northern Forest Forum
Spring Equinox 1993
Design & Management of Core Ecological Reserves

Questions We Must Answer

[Ed. Note: Readers of the inaugural issue of The Northern Forest Forum will recall Dr. Reed Noss's "Wilderness Recovery: Thinking Big in Restoration Ecology." The following series of questions pertaining to the design of 'core' ecological reserves is a guest article by Dr. Noss in the special issue of *Wild Earth* on "The Wildlands Project." Dr. Noss's article "The Wildlands Project Land Conservation Strategy" (on pages 10-25) may be the most important distillation of land protection strategies yet assembled. Copies of this extremely important special issue are available for $5 from The Wildlands Project, POB 5865, Tucson, AZ 85703. Do yourself a favor and get a copy.]

A regional reserve system consists of three basic ingredients: core reserves, multiple-use (buffer) zones, and corridors. Select your core reserves first, then interconnect and buffer them across the landscape. For many species, properly managed multiple-use zones function as corridors. An archipelago of core reserves in a matrix with low road density and low-intensity human activities will function well for most native species. Multiple-use zones at a landscape scale can be corridors at a regional scale. However, possible, however, significant core reserves should be linked by corridors containing roadless interiors.

I. CORE RESERVES

A. Selecting Sites and Drawing Boundaries

1. If large reserves (e.g., national parks, large wilderness areas) already exist in the landscape, enlarge boundaries to encompass adjacent and nearby old growth stands, roadless areas, and other ecologically important patches.

2. If no large reserves presently exist in the landscape, draw boundaries to enclose geographic clusters of the following:
   a. managed areas (wilderness areas, RNAs, designated wildlife habitat areas, etc.)
   b. old-growth stands
   c. other natural (virgin) forest
   d. other natural areas and sensitive sites
   e. roadless areas
   f. rare species occurrences (e.g., mapped by heritage programs)
   g. under represented vegetation types

3. As a regional scale, be certain that the overall system of core reserves includes the following:
   a. representative examples of all major ecosystem (vegetation) types native to the region, and all seral stages within each type
   b. centers of species richness and endemism (as determined, for example, by gap analysis)
   c. population centers of large, wide-ranging species (especially large carnivores)
   d. populations of other rare species
   e. entire environmental gradients (all physical habitat types)

B. How Large Should a Core Reserve Be?

1. The basic issue is context. Core reserves surrounded by adequate buffer zones and/or well interconnected by corridors can be quite small (say, 10,000 to 100,000 acres) and still function effectively for most target species.

2. Assuming that core reserves are isolated and surrounded by hostile habitat (tree farms, agriculture, urban areas), they may need to be 1 to 10 million hectares (2.5 to 25 million acres) or more in size to maintain viable populations of large mammals in the long term.

3. For vegetation types prone to high-intensity fire, core reserves may need tens of millions of acres in size to maintain seral stage diversity across the landscape. Silvicultural manipulations or prescribed fires may be necessary to maintain seral stage diversity in cases where core reserves are too small.

C. How Should Core Reserves Be Managed?

1. All else being equal, the smaller the reserve, the more management is necessary (particularly to protect the reserve from human activity and other external influences).

2. Core reserves should be managed as roadless areas (wilderness). All roads should be permanently closed. The more roads remain open, the less viable the reserve for many sensitive species.

3. Restoration will be the management emphasis in most cases. This is particularly true when a core reserve encompasses a cluster of relatively pristine sites in a matrix of human-disturbed habitat; or where no pristine habitat remains for a certain vegetation type.

[Ed. Note: The remainder of this "appendix" treats the design and management of multiple use zones (includes buffer zones and corridors).]

1993 New Year's Resolution Lists

Endangered Jewels For Sale

Last year, our organizations called upon federal and state government leaders to establish land acquisition and conservation easement funds to protect nine large tracts of critical lands for sale or projected for sale in the near future. These lands are vital to the future ecological, economic, and cultural integrity of the region. In 1993, our resolution is even more urgent as our proposed projects still remain threatened by sub-division, real estate speculation and short-term profiteers. These projects are joined by several other large corporate and private landowner lands which have been on the market recently. This past year the region's safety net to its natural and cultural capital types of the northeastern forest region has not been strong government funding and programs, but rather a nationwide economic recession. These lands listed represent only a snapshot of the large private lands which will be on the open market this decade. The region's multinational corporations are faced with serious long-term economic decisions regarding their land holdings. Certain large land transactions have been from one forest company to another with the goal of remaining in forest production, as in the Maine Bowater case. However, international competition and the growing interest of the real estate industry have brought new pressures to the region. Today's market has forced companies to separate their holdings into strategic and non-strategic categories. Companies like Champion International have admitted that it will be difficult to hold on to hundreds of thousands of acres of non-strategic lands in today's economic climate.

The cost of protecting these jewels in the range of 50 to 100 million dollars, based on the average market price across the region. The cost at this time can only be a range with a distribution of title fee acquisition and conservation easements still to be determined. These approximate 600 acres of prime forestland will never be more affordable and can be protected through easements and fee acquisitions. Over the next decade, several hundred million dollars will be earmarked as other large parcels become available by willing sellers on the open market. Indeed, the costs to the nation if they are lost to sub-divi

The Adirondack Council, Adirondack Mountain Club, Appalachian Mountain Club, Appalachian Trail Conference, Association for the Protection of the Adirondacks, Audubon Society of New Hampshire, Maine Audubon Society, National Audubon Society, National Wildlife Federation, Restore the Northwoods, Sierra Club, Trust for Public Land, Vermont Natural Resources Council and the Wilderness Society urge citizens from across the region to join with us to protect these and other jewels through this Northern Forest New Year's Resolution.

[Ed. Note: For further information, contact David Miller, National Audubon Society, 1789 Western Avenue, Albany, NY 12203.]

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Property | Location | Acreage (approx.)
---|---|---
Morgan/WhiteBird | Adirondacks | 1,000
Folensby Pond | Adirondacks | 14,000
Lyons Falls Pulp & Paper | Adirondacks/Tug Hill | 20,000
Champion (non-strategic) | Adirondacks | 95,000
Large Corporate Lands | Vermont | *250,000
Green Mountain Region | Vermont | 25,000
NH Corporate Lands | New Hampshire | *100,000
Kabot Iron Ore | Maine | 27,000
Heust Corp. Machias Lands | Maine | 7,000

Estimated Total Acreage 602,000

*Approximate New England Corporate Holdings on Market or speculated to be on market in near future.

Spring Equinox 1993

The Northern Forest Forum 19
Saving Maine's Forest:

by Mitch Lansky

Which is the best way to save the most forest in Maine as fast as possible? Some groups are working to pass regulations that would ban clearcutting. Other groups support the federal government to buy up both industry forest land as possible. Both strategies are attractive because they are simple—easy to sell to a public that is overwhelmed by a myriad other problems.

A ban on clearcutting, for example, would, some argue, stop the most abusive forest practices. By maintaining tree cover, such a ban would help protect soils from erosion, prevent the run off or washing away in the rain. Fragmentation, simplification, and conversion, major threats to biodiversity, would be slowed. There would be less incentive for herbicide use because there would be less "brush." And with continuous tree cover ensured, there would be less possibility of local timber shortfalls as might occur with rolling clearcuts that can engulf entire townships.

Land purchased by the federal government, argue others, would be subject to regulations that are already in place to assure multiple use and sustained yield. It would be far easier to justify and create wilderness areas and preserves to maintain wildlife diversity. Government ownership would end the threats of leveraged buy outs (LBOs) and land sales for development. Government control would allow continued public access to forests and public input to management plans.

There are, however, problems associated with both of these approaches. Creating these policies requires major organizational efforts and can lead to divisiveness. These battles are not just environmentalists against industry, but may include woodlot owners, logging companies, and local communities who feel that another layer of bureaucracy is being imposed on them by outside forces with no attention to their unique problems or special needs.

New regulations require more money, bigger bureaucratic staffs, more paperwork, and more taxes. Currently in Maine, the state is not even able to enforce regulations already on the books. Corporate lawyers have also proved adept at finding loopholes to weaken the force of existing legislation. There is thus a need to find a compromise piece of legislation that will lead to minimal results.

Regulations do not encourage good management; rather they legitimize poor management. With current definitions, a landowner can remove 75% of a well-stocked forest and still not have created a "clearcut" if the stumpage is not removed. These landowners can then have an incentive to dominate the public lands, this pattern might change if public lands became managed in a more sensitive manner than industrial lands.

The last few decades have witnessed, in these areas, below-cost sales, subsidized road building, and in terms of federal management, the Forest Service has overemphasized even-aged management methods and subsidized early-stand management (such as plantings, then thinning, then shelterwood) with little regard for biodiversity.

To the degree that public lands are surrounded by private lands, subject to human management, they become more like isolated islands with less value for protecting wide-ranging species, such as large predators. To protect the public lands would require efforts to reform practices on private lands. Public acquisition would thus be the beginning, not the end, of forest reform struggles.

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The result is a tendency to replace workers with machines that remove whole trees. Indeed, while there are many disincentives to use labor, there are incentives (such as investment tax credits and equipment depreciation) to use machines.

Once the contractor has purchased machinery, he is in debt to the banks. To pay off this debt requires selling high volumes of wood, fast. The easiest way to use machines to cut high volumes fast is with even-aged methods, such as clearcuts, strip cuts, or shelterwood.

These trends have led to a situation where it takes more land to support fewer workers. This, in turn, means that there is only a limited amount of land—the fiber base is not expanding to support a stable level of wood employment. The impact of these changes on local communities of poor density and lacking economic diversity can be profound.

Neither clearcut bans nor government land purchase deals have been with the issues of available markets, market prices, and the economic viability of the forest industry. The Northern Forest Forum

Industrial forestry, Maine Style. Photo by Jim St. Pierre.

Landowners, to keep costs down, hire "independent" contractors, rather than employees, to cut the wood. By doing so, the landowner avoids dealing with costs for insurance or benefits. The landowner pays the contractor based on the volume of wood cut. The contractor thus is primarily paid to remove wood, rather than to manage forests.

The contractor is caught in a squeeze between the price that the mill pays for delivered wood and the trend that the landowners depend on this spread has been declining in real terms (inflation adjusted) for years. The contractor also sometimes has to pay for public roads. These diminishing returns and high costs are an incentive to cut high volumes per acre.

The type of cutting a landowner or contractor might choose also has much to do with available markets. If there are no local markets for low-quality wood, the contractor will have an incentive to cut the best and leave the rest. If there are only markets for low-quality wood, there is no incentive to manage for quality—the forest may be converted to short-rotation pulp. If there are markets for everything, there is an incentive to cut everything.

Instead of paying the workers a weekly wage to manage the forest, the contractor usually pays the workers on a piece-rate wage—i.e., the more you cut, the faster you cut, the more you make. This type of wage is a disincentive to take time to care. It is an incentive to rush, to damage the forest, and to have a high accident rate. As the forest becomes dominated by low-value, low-diameter trees, it becomes difficult for loggers to make a decent income on a piece rate. As accident rates rise, insurance rates rise, and contractors avoid practices with high accident potential, such as limbing trees in the woods.

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Continued on Next Page

Spring Equinox 1993
NH Legislature... Not Behind the Times

by John Harrigan

Every now and then, public opinion is far ahead of the legislative branch's consciousness, and there is massive impatience over the government's slowness to understand or respond. Oddly enough, a parallel can be drawn between cigarettes and clearcutting.

Restaurant patrons and many of the people who run restaurants are sick of the hassle and futility of trying to segregate smokers and non-smokers and the air they breathe, and want the Legislature to show the way by simply banning smoking in public dining places. This would give all restaurants a level playing field. Yet lawmakers have displayed nothing but timidity and delay on the issue, and have stuck their heads in the sand as the who-owns-the-air issue has ballooned into a major controversy. In the absence of any initiative by state government, local cities and towns have begun to adopt their own ordinances. This creates the kind of crazy-quilt regulation that wastes time and money and fosters widespread confusion.

The public is also far ahead of state government on the clearcutting issue. Clearcuts have always been with us, but now seem to be bigger, in more visible places, and most shockingly of all, startlingly evident in the high country where skidders have never been seen before. The public can see clearcuts all over the horizon, and people are aware that there is little or nothing on the books to regulate the size of a clearcut, soil considerations, the degree of slope, or public visibility.

The Legislature charged a special committee to look into the clearcutting issue last spring, but gave it neither enough time or money, let alone a clear sense of mission or urgency, to take even the most cursory look. Nothing was done, and clearcutting continues almost totally unregulated, except within the White Mountain National Forest where regulations on the size of the cut, slope and aesthetics are key criteria that must be met—and have been, for years.

Even though clearcutting is an emotional issue in which human value judgments often outweigh scientific data, the fact is that the public is upset about the issue as never before and wants at least some basic rules in place. Once again, lawmakers are sadly out of step with changing times. Because of a lack of state leadership on the issue, there is every chance that smaller units of local government will take the job of regulation on their own. And once again, the lack of initiative in Concord will cause chaos and confusion for local government, industry and the public.

John Harrigan wrote this editorial for the Gilead Democrat on December 16, 1992. John is a well-known outdoor columnist for the New Hampshire Sunday News. He also serves as a representative of landowners on the Northern Forest Lands Council.

Spring Equinox 1993

The Northern Forest Forum

NH Legislature... Not Behind the Times, Just Behind the Times

by John Harrigan

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Spring Equinox 1993

The Northern Forest Forum

New England Environmental Conference

Features Northern Forest Lands Workshop

(Medford, MA) Bruce Babbitt, Secretary of the United States Department of the Interior, will deliver a keynote address at the 50th Anniversary of the New England Environmental Conference on Sunday, March 20 and 21 at Tufts University, Medford, MA.

Among others who will address the conference are: Dr. Helen Caldecott, M.D., Co-Founder and President Emeritus of the Physicians for Social Responsibility; Dr. Russell Peterson, former Governor of Delaware and currently President Emeritus of the National Audubon Society; Winona LaDuke, President of the Indigenous Women's Network; and Jane Perkins, President of Friends of the Earth.

There will be over 200 exhibits and the conference will be co-sponsored by 500 organizations, businesses, and governmental agencies. Among the 60 subjects to be considered in workshops will be: the Northern Forest Lands issue, nuclear power, energy conservation, hazardous waste reduction, agricultural lands and pesticides, wetlands, biodiversity and population.

The panelists for the Northern Forest Lands workshop are: Robert Morin, NE Dept. of Conservation Chairman of the Northern Forest Lands Council; Brock Evans, VP, National Audubon Society; Michael Kellett, Executive Director, RESTORE: the North Woods; Jamie Sayen, Preserve Appalachian Wilderness and Editor of The Northern Forest Forum.

Cathy Douglas Stone, Esq., law firm of Foley Hoag & Elliott; and Dr. Stephen Trombulak, Biology Department, University of New Hampshire.

Issues to be discussed during this workshop include: protecting the ecological integrity of the Northern Forest region; public land acquisition; developing stable, diverse, environmentally sustainable forestry; future needs of the region's paper industry; and the role of the Northern Forest Lands Council.

The workshop meets both morning and afternoon on Saturday, March 20. For information, contact: New England Environmental Network Conference, Environmental Citizenship Program, Lincoln Filene Center, Tufts University, Medford, MA 02155: TELL: 617-627-3451
Taking up this knotty question from the interest-
ing discussion of Vermont's property tax by Deb Bright
in the Winter 1992 Forum, let me present a view that
differs in approach. First, this view is built on the Mas-
ne experience. Second, it attempts an inte-
gration of the several possible sources of money to
conduct our governments.

Even in this paragraph, I will not invoke the
word fair; it has possibly as many definitions as
there are people affected by an actual or proposed tax ley.
Forty years ago, the first assessor of Aurora told me
that it would be fair if each resident should pay only
the same local tax. He was third in area owned. We
had a poll tax then, too, based on equal participation in
hearing the cost of government. Some think it would
be fair if no rich kids inherited great wealth, that the
arena of competition and consumption were level.
(Inheritance of large tracts of forest land is a subject of
the Northern Forest Lands debate.) Let us agree that
this abbreviated list is sufficient reason to avoid this
criterion.

The great abstraction, the State, is both the source
of the power of taxation, and the recipient of the rev-
enues derived through taxation. Owning everything
and every business extracts first what it needs to
maintain itself, things like police, armies, tax
collectors, as in absolute monarchies. To prevent civil
unrest, it provides wealth and services enough to its
people to obtain the support or acquiescence of a ma-
jesty. These services are paid for by additional taxes.
(Politics is the dirty business of trading the services
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the interests and will of other, possible majorities.)

So much for theory, but this is fundamental to an un-
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Taxes
Continued from Preceding Page
tax, following the constitutional provision reserving
to the state the power to collect money to support our
community.

To attend our town meeting and to look at the
voter's ballot is to be aware that there is now little lo­
cal control of local taxation; we vote on relatively mi­
nor items, things not mandated by state and federal
laws. Citizens are seriously asking what this remnant of
local control costs us. Several towns have deter­
mined that the cost of this token local government is
an expensive luxury. It is possible to do without it,
yet to receive the full range of local services, at less
cost to the inhabitants. How can this be so related
directly to the idea of a tax rate applied uniformly to
the property in this tax base.

When a Maine town de-organizes, its taxable
property is put into a tax pool with the rest of the
community. Visualize what would be the situation if
but, better yet, it becomes part of an extensive one
community. The Uniform Tax is a tried approach. The
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property is put into a tax pool with the rest of the
property in the unorganized territory. It immediately
has a larger tax base for the cost of local services,
but, better yet, it becomes part of an extensive one
that had been exempt from supporting the broader
community. Visualize what would be the situation if
towns all de-organized—we would have one, broad tax
base, and uniform taxation of that. Some towns have
done this. Others are actively considering it.

Our task is to reconcile our needs and our tax re­
venues. The Uniform Tax is a tried approach. The
sales and personal income taxes and the "sin" taxes on
alcohol, gambling, and tobacco are "people" taxes.
They constitute the bulk of state revenues. The local
property tax in rural communities is also a people tax.

It is about as high as it can go in what the Northern
Forest Land Study shows is the poorest part of the re­
region. The free ride that we gave to woodland owners
didn't save our jobs or the forest. Why assume it will
work better in the rest of the Northern Forest region?

Environmental Air Force
Wings Over the Northern Forest

The photographs shown on pages 16-17 were taken during a flight do­
ned by the New England Regional office of the Environmental Air Force—a
non-profit organization whose sole mission is to make the "persuasive" power of aviation available to environmental and conservation groups na­
tionwide. Many endangered and undeveloped regions of our county are not
easily accessible from the ground. Consequently, airplanes are the only prac­
tical way concerned people can reach these areas to document and dramatize
environmental problems or opportunities to scientists, land use planners,
policymakers, potential land donors, and the media. EAF aircraft also pro­
gress roots conservation workers with an unparalleled observation platform
and can assist in trucking endangered species, surveying threatened or
critical areas, and providing the aerial data necessary to design and monitor
natural reserves.

EAF serves as a clearinghouse among FAA-certified general aviation pi­
lots who wish to volunteer their services and conservation organizations
whose activities could be leveraged by aviation. As a national organization
with a home office located in Philadelphia, EAF participates in a number of
regional organizations such as the Northern Forest Alliance.

EAF works with many conservation organizations, so that the coopera­
tive synergy produces greater results than any organization could achieve on
its own. And despite the name, EAF's volunteer pilots are neither airborne
law enforcement officers nor environmental radicals. The volunteer pilot
corps largely consists of responsible business people from all walks of life,
including some highly seasoned former airline pilots. What they have in com­
mon is a love of flying and a desire to leave our world a better place.

Environmental and conservation organizations are invited to join EAF as
Conservation Members on a local, regional, or national basis. Conservation
members are eligible to receive EAF's Wings for the Planet services free of charge. EAF also seeks individuals who wish to donate their flying or photography skills.

In New England, contact:
C. Rudy Engholm, Regional Director
EAF New England Region
1222, 2084A Eastern Road
Brunswick, Maine 04011
Tel. or fax: (207) 721-0228

EAF's Wings for the Planet
services free of charge, EAF also seeks individuals who wish to donate their
coversage of the First International Temperate Forest Conference and the
NFN Strategy Meeting will be in the spring editions of Wild Earth and the
PAW Journal.

For further information contact:
Native Forest Network, 112 Emu Bay
Road, Deloraine, Tasmania 7304
AUSTRALIA—or Eastern North American Region, Native Forest Network, POB 57, Burlington,
VT 05402 USA (802)625-5203.

Temperate Forest Activists
Meet in Tasmania

by Orin Langelle

The First International Temperate Forest Conference was held November 12-14, 1992, in Deloraine, Tasmania, Australia, and was attended by almost
200 representatives from the Southern and Northern Hemispheres. The
representatives agreed in their mission statement, "To protect the remaining
native temperate forests around the world to ensure they can survive,
flourish and maintain their evolutionary potential."

British botanist Professor
David Bellamy, was the keynote
speaker.

Representatives and the media heard
spokespersons from both hemispheres convey diverse and varied visions of
the future of forest conservation. The First International Temperate Forest
Conference is scheduled to take place in North America sometime in 1994 and in the
latter part of 1995.

American Continental Conference will be held somewhere on the eastern coast of
the United States.

Native Forest Network
Inaugural Strategy

Immediately following the conference, about 30 forest activists met in
Jackeys Marsh, Tasmania, for the Native Forest Network (NFN) Inaugural
Strategy Meeting. Participants in the three day session hammered out the
details of the start of a global network designed to share information and foster
activism on the grass-roots level. It was proposed that the NFN campaign on
temperate forests would focus on the many areas with their first priority being the creation
of a Temperate Forest Action Network.

The inception of the global NFN umbrella and the subsequent Action
Network offers many possibilities for grassroots activists while still
remaining autonomous, by sharing information and tactics to non-violently

A birds eye view of the Northern Forest. Photo by Alex MacLean—Landslides.
Will Small Dairy Farms Survive in the Northern Forests?

by Andrew Whittaker

Dairy farms are a cornerstone of the forest landscape and economy. The family-owned dairy farm has, over the years, helped define the scale of agriculture, and kept in relative harmony with surrounding woodland ecology. True? or False?

For centuries many that grumble that live stock and trees do not mix; water resource professionals and others may lament the occasional crumpled stream bank, it is indeed a fact that manure is a serious source of non-point water pollution. These problems, though persistent, are not intractable, especially if dairy farming maintains its small scale.

Dilapidated, unproven economics are forcing milk production toward greater concentration. The family farm—and indeed the whole New England dairy industry—may be swallowed up by super farms with access to credit enabling them to ride out the dairy depression.

Production of such farms may be marginally cheaper—perhaps by 50 cents a hundredweight according to a recent study. Such savings to the individual operator opposes the larger, more efficient, and more ecologically, regional approach to food production.

In my own 20 mile stretch of the Connecticut River Valley, I count nine dairies—a number not altered much over the thirty years since the bulk tank route squeezed out four or five dairies in this same area. Together, these nine operations, all family-run, number under 100 cows, farm approximately 2000 acres, and employ, beyond family members, perhaps a half dozen farmhands. Additionally, they form part of a regional employment base by providing work for truckers, granaries and various supply stores.

That each and every one of these nine dairies is losing money, by most reckonings—reflected in volunteer labor, work for truckers, granaries and various supply stores. The philosophic thrust of the de facto farm policy of the U.S. suggests we would be better off if all of these farms were eliminated, the cows concentrated on one farm, everything mechanized and all the various farm families encouraged to move to wherever in the United States they could find work.

The production favors areas in the upper mid-West—an area in which small producers also feel themselves under the economic gun. To return to the implications for the New England landscape, some might see the disappearance of the cow. After all, we might then see a return to the ecology of the forested meadow, rather than that of the corn field; we could eliminate some pollution; and we could search for new uses for old farms that would somehow tie into the ex-urban economy of recreation and tourism.

Sustainable economics require that if we as a region consume something, we also produce it; that insofar as possible, we do not consume commodities that trash a distant place just so we can live cheaper.

But for several segments of people in rural New England, the demise of the dairy farm would be a serious blow. For people with roots in the Depression, dairying provided the promise of prosperity in return for hard work, investment, and production of a quality product. In short, milk per feet in shoes and kept roofs overhead. Why break this agreement now?

For others, with an interest in building toward sustainable economics, the dairy farm is seen as a key ingredient in the struggle to help rural areas avoid the status of third world nation. Sustainable economics require that if we as a region consume something, we also produce it; that insofar as possible, we do not consume commodities that trash a distant place just so we can live cheaper. This means that, yes, we accept a certain loss to the purity of our natural environment, in return for knowing the consequences of our own actions, rather than that of the corn field; we see ourselves as a nation deeply scored by new bear scratches.

Finally, however, I would illustrate the symbiosis that has developed between the dairy farmer and the woodlot—although a neighbor of mine suggests that treadmill economics keep farmers too busy to cut wood.

An elder of mine and his wife used to bottle the milk from their small herd, peddle it, drive school bus morning and night, in addition to milking. At midday, he would also hurry out to cut wood with his hired man. They would be lucky to get out a batch of wood a day. Parly they were in the woods for the love of the forest.

The farmers' woodlot is very seldom cared for like the corporate corporation's land. It provides a slow, steady yield of pulp or logs, often milled on the spot, that in no way precludes protection of other species or the integrity of the landscape. If everyone cut like the farmer who went out between milkings and school bus runs, there would be little urgency to the issue of who owns the wood.

The corporate forest is long divorced in time from the farmers' woodlot. But the same pressures that long ago brought mega-capital to pulp and paper production are knocking at the family farmers' door. Unfortunately, our urban population is too ignorant, and our politicians too timid, to care.

The Northern Forest Forum Spring Equinox 1993

Buy Land
They Don't Make It Anymore

-3.5 Million Acres For Sale Today
-10% of Maine Was Sold in 1991 For About $80/Acre
-The Public Supports Land Acquisition in the Northern Forests
-We Can Afford to Buy the Land
-We Cannot Afford Not to Buy the Land

From Crossing the Field, by Kate Barnes, Blackberry Books, Chimney Farm, RR 1, Box 228, Nobleboro, ME 04555. Price $7.95 (pap.) The Wood Engravings on pages 24-25 are by Siri Beckman. They are also from Crossing the Field.
Is there a Future for the Small Dairy Farm?

An Open Letter to Senator Leahy

The other day as I was doing evening chores at my neighbors'—a dairy farm that is considered one of the area's best—my neighbor and I began to discuss the low price of milk.

It is a conversation I have held with dairy farmers from Vermont to Massachusetts and Washington state. Farmers in general, I know, are frustrated that the "cost-price" figures are similar for farmers in Minnesota, Wisconsin and New York.

In this conversation, the tone of frustration—my neighbor's expressed readiness to throw in the towel, we went through the litany of familiar arguments from Washington state. We perhaps only know the broad outlines of federal actions, but after all, we were in a dairy barn milking cows—somewhat close to the center of things. "Leahy has said he's done what he can and can't get dairy farmers to agree," I offered.

"What is there to agree on?" replied my neighbor, with some exasperation. "It's simple: raise the price of milk.

We discussed a formal study of what my neighbor already knows: farmers are subsidizing the production of milk. This study concluded that the real cost of milk is $18 per hundredweight. Farmers in our part of New England are earning closer to $12—out of which comes the cost of producing milk and transportation. Anyone who knows this knows that leaders in government have heard the tone of distress in their constituency. Do they realize the implications of the milk production and big capital? Out here in the hinterland, there is no clear answer.

As to why the Senate has not done its job, I do not doubt the sincerity of my own Congressmen who have grappled with this issue. What do I doubt, is whether they have heard the tone of frustration in their constituency. Do they realize the implications for rural areas of a dairy depression?

Were dairy farms to disappear from my town, we would have absolutely no industry, not even the $5 and $6 an hour jobs that some of the larger farms offer.

On the other hand, if the farmers in my town were delivering dollars to their bottom line, I know that those dollars would be seen again: wages might inch up and procurement of consumer goods and durables by some long overdue equipment might be purchased; there would be improvements to buildings. To me, those are the kinds of things that make a difference.

We also went over some of the advice given by experts. "What should a farmer have to earn outside income to stay farming?" Ludicrously, this is often suggested as a viable economic means of staying in farming. And, indeed, reflects the truth that off-farm income keeps many farm families afloat. But this outside work comes on top of the 14 and 16 and 18 hour days so many of them put in, 365 days a year. Do lawyers practice accounting to stay in law? True—everyone who works, works hard—at least at the end of the week, there is some money left after bills.

Efficiency? I think the last inefficient dairy farmer would be the one to say he is having a hard time. The problems facing dairymen are the same everywhere: a big challenge; the farmer does well to stay afloat, while all the time working harder than most all his neighbors. Magazines and experts offer advice on how to farm better, but most farmers don't have time to farm as well as they know how, today. The money to invest in more capital is lacking.

The surplus? My neighbor believes the low or negative return on milk is what drives the farmer to overproduce. Create an incentive to produce at a certain level, and farmers will put their energy into efficient production at that level. As it stands, each and every farmer I have ever worked for has had but one incentive: to make more milk.

Since starting to work on dairy farms in 1986, I have gotten used to a certain amount of ritual petting of cows, hours spent in the cow barns, conversations with cowhands, fishermen and others who work with natural resources. What is new to me is the talk of quitting—which I have heard also about dairyman I do know. I wonder—isc this talk what our dairy policy has aimed at all along?

I have also read of the difficulty of formulating a national policy. From my own experience, that may not be quite the case. From working on small dairies in New England and in a community of small dairies in Washington state, I would say that there is a general consensus that the problems facing dairy farmers everywhere, and this despite the fact that some say that the problem of large versus small farmers can be solved locally. All that is lacking is the capital. Federal monies could create the necessary capital pool, which, with the USDA's help, could be used by processes to upgrade facilities. In this way, the dairy industry could stem the loss of the smaller processor—yet another endorsement of the local.

Second, let's region that generate surpluses of milk pay for them: let regions that require water projects to sustain agriculture pay for them, too. In short, let's combine the streamlining of the USDA with a regionalization of farm policy. The political face of the coalition necessary to accomplish such a re-orientation of our goals probably looks very different in Washington than out here in the wilderness of sparse rural votes—where organized lobbyists tend to pour their money to "neutral" or "low-wool conserva- tives hostile to reforms, regulations and environmen- talists. While this might be 60% true, the dynamism of the regional group, which may be fruitful dialogue between left and right. The area of agreement is in the consensus on scale: government is too big, agribi- ness too powerful. A regionalization of agriculture might be feared in Washington by those whom it would disfranchise, but there is broad acceptance of it across the country by people with a variety of goals and backgrounds. Let's bring this communitarian app- proach, heard in Nebraska and California as well as Oregon and Vermont, to Capitol Hill.

Third, let's shift from characterizing farmers as be- ing yet another special interest, more or less deserving of handouts, to keying in on their role as productive members of society whose efforts promote peace, prosperity and, with sufficient resources, environmental quality. This can be a normative assumption. The winds' issue, for instance, has been used by powerful lobbyists to whip up sentiment against regulation. What's conveniently overlooked is that the small farmer is generally not the fellow who plows fence row to fence row. With some incentive, the small farm is pre-disposed to conserve. This applies to the Western state where the small rancher is actually a valuable conservator of front range watering areas as much as to Vermont's farmer owning a woodlot.

Finally, as noted before, dairying is one of the few in- dustries actually located in many rural areas, and, if maintained in the hands of the small producer, would re-direct profits into capital improvement that would benefit surrounding communities.

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Finally, as noted before, dairying is one of the few in- dustries actually located in many rural areas, and, if maintained in the hands of the small producer, would re-direct profits into capital improvement that would benefit surrounding communities.

Finally, let's rid our foreign policy of the impera- tive to rain down the threats of foreign nations the consumption as bastions for export, which are produced in ways that degrade the environment. The cheap commodity cheapens everything around it, so that consumers may benefit. What they lose, is viable agriculture.

Sound agricultural policy is not subsidy for farm- ers. An absurd agenda that depletes the resources of rural areas is subsidy for the consumer. Washington must press for new policies, built on growing awareness and concern for the long term im- pacts of humanity on the planet, that reinforce the family farm.

Sincerely,
Andrew Whittaker

Spring Equinox 1993

The Northern Forest Forum
**Dioxin Decision Due**

by Jamie Sayen

The Maine Board of Environmental Protection (BEP) will announce its decision on Governor John McKernan's proposal to relax the state standard on the discharge of dioxin (2,3,7,8 TCDD) into Maine's waterways on March 24.

Currently, the US EPA's standard of 0.013 parts per quadrillion (ppt) is in effect in Maine. The paper industry—in yet another example of industrial blackmail—argued at tumultuous public hearings on November 5-6 and 24-25, that it would break economic hardship on the billion dollar, Fortune 500 corporations, even though only two of Maine's paper mills are out of compliance with the EPA standard. McKernan's proposal would weaken the standard by a factor of nearly 40 to 0.5 ppq.

At the November BEP hearings, paid industry "experts" assured the Board that the risk industry is taking with our lives and the lives of every organism that lives or feeds in the rivers and estuaries of Maine's largest rivers is "acceptable."

Citizens from all walks of life, led by a contingent of Penobscots who rely on subsistence fishing as a mainstay of their diet, declared the honor of being poisoned for the sake of industry profits that leave the state. The Natural Resources Council of Maine (NRCM) coordinated the opposition to the McKernan proposal. Their unpaid scientific experts told the BEP that dioxin is probably worse than feared. NRCM also helped coordinate grassroots participation in this process, demonstrating that when mainstream environmental groups work with grassroots activists, we form a very powerful coalition.

There were several disruptions during the emotion-charged hearings. At one point a stinky substance cleared the hearing room for over an hour on November 5. And, because so many ordinary citizens insisted on testifying against the poisons, an additional day of testimony for opponents had to be scheduled.

Industry based its argument on the claim that other states also place profit ahead of public and ecosystem health, and if Maine were to act unreasonably (and reject McKernan's proposal) Maine's paper mills would be at a competitive disadvantage. It's the familiar line of blackmail industry always trots out to oppose socially responsible legislation: "If you do something we don't like, we'll leave and you'll all lose your jobs."

Well, folks, they haven't left yet, and still the jobs are disappearing.

But the heart of the economic issue is: chlorine-free bleaching processes exist. Chlorine bleaching of paper produces dioxins and hundreds of other toxic organochlorines. So, who should foot the bill—the poisons or their victims?

Please attend the March 24 BEP hearing and register—again—your absolute opposition to chlorine bleaching. It's 1993—time to be chlorine-free!

For more information contact Evelyn deFrees of NRCM at 271 State Street, Augusta, ME 04330. Tel. 207 622-3101.

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**NH Mill Community Searches for Economic Diversity**

by Barbara Tetreault

For over 100 years, Groveton has been a paper mill town and it was accepted as a given that residents could depend on a job at Groveton Papers Company. When James River put its three northern New Hampshire mills, including the Groveton plant, on the market in August 1990, the action was a rude awakening for the entire region. By some estimates, 70 percent of the local economy revolves around those operations.

While the larger Berlin-Gorham operations attracted most of the media attention, the shock waves were felt just as strongly in Groveton and surrounding towns.

With little in the way of job diversity, the mere thought that the Groveton mill might close forced some residents to take a hard look at the economic structure that exists here.

An economic development corporation, STA-NORTH, was formed by residents of Northumberland (the official name of the town that encompasses Groveton), Stratford, and Stark. After a painfully slow birth, it moved this January to sponsor a series of strategic planning sessions.

Approximately 40 people, ranging from town officials and blue collar workers attending the first session. Many participants were skeptical that the sessions would result in any positive results. But through a critical look and analysis of both the region's strengths and weaknesses, the sessions have fostered a needed self-examination.

Among the things identified as strengths are the beautiful physical environment, the outdoor recreational opportunities, the sense of community that exists here, and a diverse skilled labor pool.

Weakenesses ranged from an under-appreciation of the natural environment and inconsistent land use controls, to alcoholism and a brain drain of young people leaving the area to find employment. Part of one session was spent discussing the need to foster a sense of entrepreneurship that appears to have been lost.

At the last session, participants divided into four groups to take the strengths and weaknesses and begin to develop them into opportunities and threats in specific areas.

The groups were agriculture and forestry, the development of community spirit, tourism and recreation, and business and industrial development. The hope is that each group will eventually come up with some specific projects that can be developed.

A fourth session was scheduled for Feb. 12 but was postponed by a development that seems promising for the group's efforts. North Country Council Executive Director Preston Gilbert, who has served as facilitator for the sessions, reported that the Northern New Hampshire Foundation has received a grant to help two communities in the state, and one of these chosen was the area encompassed by STA-NORTH.

According to a letter sent to STA-NORTH, a project is being begun to study and assist in the development of sustainable economic activity in the communities. Since that goal is compatible with the objectives of the planning sessions, it was decided to look at how the two efforts could be merged.

On another front, STA-NORTH has been looking into the possibility of establishing a local dairy in Northumberland to bottle milk from two farms there. It may be too early to gauge the success of these efforts. Certainly, there is a need for more people to get involved. But by one measure, the fact that the planning session and the work of STA-NORTH have caused residents to look at their communities and future, is encouraging.

Throughout the sessions, there has been a growing realization that there will be no white knight riding into town with a factory of well-paying jobs. While James River has signed a letter of intent to sell the Groveton mill to Wausau Paper Mills, it is clear that the erosion of jobs that has occurred thus far is unlikely to be reversed.

If job opportunities are to be created, they will most likely be by local efforts. The sessions have stressed the need to develop cottage and small forest-based industries emphasizing value-added products is the direction this region should take.

Local ownership returns control of the future to the region. One frustration for area people has been that decisions regarding the economic mainstay of the entire region are made in Richmond, Virginia.

Some famous person once wrote that a journey of a thousand miles begins with one step. Maybe the first step for this region to regain its economic independence has now been taken. That doesn't mean the journey ahead will be smooth and without pitfalls. It only means that we have begun the effort of moving forward.

A native of Groveton, Barbara Tetreault is a news reporter who frequently writes for the Union Leader.

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**Dioxins and other organochlorines discharged from this James River Corp. mill in Berlin, NH into the Androscoggin River travel through Maine and out to sea.** Photo by Alex MacLean-Landslides
A Talk with John Collins - Chairman of Adirondack Park Agency

John Collins was appointed Chairman of the Adirondack Park Agency (APA) in September 1992. He has served on the APA since 1984. From 1965 through 1984 John was chairman of the Town of Indian Lake Planning Board. Despite this lengthy and impressive record of public service, he views himself first and foremost as a fifth grade school graduate. At Long Lake, a job he has held for 23 years. Every year he takes his fifth grade class on several day hikes and one ten-day hike. That is wilderness. John Collins is a fifth generation Adirondack resident.

Forum: The Adirondack Park is a mix of private lands and public lands owned by all citizens of New York. What are the benefits and problems created by a public-private park?

Collins: We own six million acres of land set aside as park. 42% is wilderness by law, if not in fact. That is wonderful. I hear people say "It can't be wilderness, we cut it down all the way back years ago." I say it's wilderness. It may get older, it may get better, but it's already a wilderness, and it's going to get more so as we go on. I think we need to be alert, concerned and smart about how we deal with that wilderness. We're going to squabble about how to manage or leave our wilderness alone.

Forum: The park and the people are much broader. The concepts are much fuzzier and the understanding is much less certain about what's private land in the Blue Line as compared to private land in Saratoga County outside the Blue Line or private land anywhere in the country. Most of us recognize that because of the Park, we have great advantages, but we're just rural enough, just stubborn enough to think: "Well, so what are all these advantages, what about my small island?" What about this disadvantage of having somebody tell me what to do with my land, or some of the things to do with my land? Isn't the sore thumb the thing that I should worry about and not all the other things of being healthy?

Forum: Doesn't the development of private lands benefit the residents of the Adirondack hamlets?

Collins: Look at the people who have made money from developing the Park. It's not those of us who live here. There are a few and they are entitled to their success, but overall the money that's been made in the condominium development and on the summer second home development has gone into the pockets of outside financiers and outside developers. It has gone very little to help the local people.

Forum: Don't the residents of the Park have a right and need to make a decent living so that they aren't forced onto welfare?

Collins: The type of restrictions that the Adirondacks now have and the act I charged with administering--do not prevent people from developing their property. The Agency Act does require that development be done in certain standards. I don't think that there is a single example--where it's gotten away from the environmentalism that often accompanies all this--of land being developed in any way by the restrictions put on that through the Agency Act. The restrictions are not very onerous. They are reasonable. Yes, the Agency has taken shoreline wetlands that could probably have been sold to some sucker for a $1000 a front foot and said "you can't develop." If that's what somebody means by their heritage was lost, I don't know. Other people have been able to deal with the swamps.

Forum: What economic options and opportunities are there for native Adirondackers to support a family without damaging the environment or being reduced to poverty?

Collins: The word that concerns me in your question is "sustained." That's the word. I think if one wants a sustainable means of earning a living from Adirondack land, it's pretty reduced to start with due to the fact that it is upstate. The problem is the lack of transportation. This is not farming country. This is not land that is going to provide a high level of existence, if one depends on the land alone.

I think for local Adirondack people to be assured of being able to have a decent living in the park, they have to have some skills that would have outside the park too. Skills that interface with the 21st century. Do you want to work for the tourist industry? Then you should think "That's what my land that isn't developed is doing. It's bringing people into the park to leave those hundred dollar bills..."

For lots of our local people, there are jobs available if they would prepare themselves. The DEC people have decent jobs in the Park. Those are available to local people if they want to prepare themselves. It's hard for me to listen to Don Gerds and others rant and rave about how this park is overwhelmingly poor of the Adirondacks; when many people have not done a very good job of preparing themselves for life in the real world, whether it's in the Park or out of the Park. I'm sure that's a rural phenomenon, that's not just an Adirondack weakness.

Forum: Why was the APA created?

Collins: The APA is very definitely a child of the late 1960s economic boom. The 70 million or so people who live outside the Park and the people who live outside the Park and support it what it's tremendous advantages are. We bus the school kids to New York City, supposedly to show them the greatness of the City, but it's not about me to point out the dirt in the air, the grime in the eye.

The third task of the Agency, the major task of the Agency, which we're not doing too well right now, is long range-planning. What should the Park be like? How can the Agency and the State best respond to the needs of the park, the people who live in the Park, and the people of the state who own the Park. What are the appropriate tools, what are the types of decisions, what are the questions that have to be asked for the Agency and the State of New York for the long-term as they look at the Adirondacks.

One of the best things I can do is ask the Agency Commissioners and planning staff: what are the options? How can we stay here? What will the people here understand and realize that it is their place and that they have to be responsible for it? Those are the questions that have to be asked.

I know the agency can do a better job if we can get its morale back up. If I can get a sense that we are making progress on the APA, that's not overwhelming to that stuff. There is about a six-month backlog.

Forum: What is your long-term vision for the APA?

Collins: The long-term vision of the APA is to steer development toward those areas in the park that are most appropriate for road development that appears to be the areas in the hamlets and just outside the hamlets. More and more and I think the Agency's sense--although it is certainly not policy yet.

My grandfather was the Caretaker at Sagamore from 1900 until 1924. One of his responsibilities was to have all this land and all that JP Morgan owned at Uncas posted. His further responsibility was to keep his neighbors and some of his relatives off of it, because it was no longer open hunting and fishing ground. There was a great deal of hard feeling, there was also a great deal of sport in it. I'm speaking now from my family tradition. The sport was for my grandmother's brothers and sisters to beat RJ my grandfather.
shoreline development, such as Tahoe Resort on Lake George, threatens some of the most beautiful, undeveloped tracts in the Adirondack Park. Backcountry development of forestland, while less visible, is equally threatening. Local residents of the Park do not see the profits generated from this sort of development project. Can the APA protect the Park’s ecological integrity? Photo © Alan Cederstrom, courtesy The Adirondack Council

Collins continued from preceding page

-tis that resource management and rural use [the two most rural zoning areas of the park] are not areas that allow permits development there. Our law also talks about appropriate development and cumulative impact.

I think as the agency matures and looks at the park and sees where it has been and where it is going, it is becoming more and more apparent that there are places that are much more appropriate for development in the park. Our role is to steer development in that direction. This can be done by developing rules and guidelines for the park—by making the rules and guidelines work in such a way that developers are attracted to those areas, rather than to areas where development is not appropriate. We need to always, always, always keep in mind the economic needs of the people of the park and the people of the state. We have to look at value-added type of practices rather than just something that is going to give the quick fix of today and be gone tomorrow. We need to look at things that ought to be done in the park vs. things that ought not to be done in the park.

Forum: Does the APA have the power to factor cumulative impact into the permitting process?

Collins: We have the power. We don’t have a thorough understanding of what it means, and we don’t have the resources to measure. We use the concept of cumulative impacts to call for a public hearing. There was a project on Lake George to put 150-200 more condominiums in the town of Bolton Landing. One of the reasons we gave for taking that project to public hearing—which is what we have to do if we are going to deny it—was somebody needs to stop and look at current use. Yes, the density you could build there, but it also says if you would have 150 there, and at some point we think there are going to be too many condos, there might already be too many condos. We need to look at that.

For the large Patton Realty-type lots in our back country, we use cumulative impact. One house in the wilderness? Three houses in the wilderness? 35 houses in the wilderness? Wait a minute! What are we doing? That’s cumulative impact because none of our other standards for development are adequate to say that development is not appropriate there, and yet it is pretty obvious to a majority of us that development is not appropriate in that space.

Forum: Can we sustain development in perpetuity? Can every generation continue to develop at today’s rate?

Collins: The obvious answer is no. We can’t do that in perpetuity, we can’t even do that in the Adirondacks for 25 to 30 more years.

Forum: Do this generation have the right to use up all future development options in the next ten years or so?

Collins: I think we put into our thinking the theory, the concept, the practice of re-use. I have said for ten years—not as an agency commissioner, but as a private citizen—who is concerned for the future, that it’s time to close the gates, because we’ve got to close them sometime. That’s obviously a figurative term. What we mean is to say that we’re currently engaged in re-thinking the resource management and rural use areas. If the APA doesn’t understand that we cannot just continue to develop and develop and develop in the park, then the APA is just gridlocking the park up and overusing its sale.

Forum: There is some limit, whether or not we agree where the limit is, we all agree there is a limit. And you’re saying we’ve already passed it?

Collins: That’s right. I’m saying, close them now. No matter how loud the yell is, it’s less than it’s going to be in ten years from now. Now’s the time to close the gates.

Forum: Are there people who say we can continue at this rate? Development for the next hundred or thousand years?

Collins: There are people who say we shouldn’t talk about this at all.

Forum: Many people acknowledge there are finite limits to the amount of development that can be done on a finite planet, in a finite park. They may dispute the time frame but they don’t dispute the fact that there is a limit.

Collins: The thing that scares me the most is the people who say, “I’m only in this for the 5-10 year period. You know, I don’t think beyond 5 or 10 years.” There are a lot of thinking people who pull that curtain back and see a vague and uncertain and too unpleasant [to contemplate the long-term].

Forum: Do these people plan for their financial retirement or for their children’s education, or do they know that 5-10 year rule for those things too?

Collins: Good question. I don’t know. You can ask, “Do you really hate your children so much that you don’t want them to have an opportunity? Can you not forego this development urge?”

Forum: 42% of the land in the Park is owned by the state. What is the percentage of land owned by small owners who live in the park full time?

Collins: 38% is privately owned. About half of the private land is paper company land. About 20% of the private land is held by large landowners—the Adirondack League Club, the Ausable Club. Only about 15% of the entire park is owned by the people in the park, and most of that is in the Champlain Valley and the eastern edge of the park.

Forum: What if we exclude the more developed eastern edge of the park and talk only about the back country of the park. Then, what percentage of those parcels is owned by the people of the park?

Collins: Under 5%, probably significantly under that.

Forum: In the November-December 1992 issue of Adirondack Life, Bill McKibben writes that the Adirondack Park is a great experiment to demonstrate that people and wilderness can coexist. That’s the value of wilderness. It’s about someone who’s living in a park that has so much wilderness?

Collins: I think we’re terribly lucky to have someone who’s willing to say, “Bill, to look at it and say that’s true.” Those who hear the sounds of bulldozers and backhoes roaring down the street in our sleep and in our dreams help to promote more value-added jobs opportunities. You need that death and resurrection of old trees, those things that we see? Look at this. Look at that.

Forum: Can we live with wilderness? Yes we can live with wilderness without wrecking it. It means living so that we take our riches where they lie, which is in being able to step out the door and breathe the air and see the sun and cross the street and walk into the Blue Ridge Wilderness and see the old growth. Those are the things that are worth the income you give up. Now you’ve still got to have an income. Abject poverty is not acceptable in New York City and not acceptable here. We have an awful lot of poverty. I think we have rural poverty. I don’t think we have an awful lot of the dirt poor, hungry children, malnourished adults, unsuccessful pregnancies type of poverty.

Forum: Rural poverty, not abject poverty?

Collins: Right. And urban poverty. I would rather be poor here than in a city. In that sense I think we can live well with wilderness without wrecking it. What we recognize is our wealth. Our cousins and sisters and brothers who have moved out of the park and live in high rise in New York and spend all that money. I don’t think they live as well as we do. They have second homes here; I don’t have a second home in New York City. (Laughter)

Forum: What is the value of wilderness to you? Is it a luxury or is there something more to it?

Collins: With absolutely no facetiousness, I think the most important aspect of wilderness to me is knowing that it’s there. I don’t even have to see it or be there. I have a touch of the atmosphere that I feel there, it isn’t wilderness right there I am. (Laughter) You can never really see wilderness; you can never really experience wilderness because when you’re there, it ain’t.

Having said that, I would say that personally I don’t know anything since the walk through an old growth forest with one or two other people and in an innocent and playful way compete to see who can see the most. “What do you see? What do I see? What do we see? Look at this. Look at that.”

In between those two extremes of what I think of wilderness, it replenishes water, it replenishes air, it provides home for creepy-crawlies. Those are things that we don’t provide for in our laws and in our paved highways and our parking lots.

The fourth thing is all the things that wildlife provides that we don’t have any idea what they are and may never. It’s a huge treasure resource of things that we don’t know. Our certain of it is because every now and then something pops up, for instance what we are just learning about old growth forests—forests are not a crop. You can’t farm a forest generation after generation. You need that death and resurrection of old trees, the mycorrhizal fungi. This is why wilderness is, in and of itself, worth something.
NY Legislature Ponders Adirondack Legislation

by John Sheehan
Adirondack Council

There are at least four bills under consideration by the New York State Legislature that would have significant impacts on the environment and economy of New York's six-million-acre Adirondack Park.

The 1993 session is expected to be a wild one, with lots of surprises and plot twists to keep everyone guessing. As the legislative branch, the Assembly has signalled a return to bipartisan support for protection of the Adirondack Park, with sensitive regions, with quick action on its version of an updated land-use plan for the Park.

Assembly Speaker Weprin (Queens) seized the initiative by introducing the bill crafted in 1991 by now-Congressman Maurice Hinchey (Saugerties), the former long-time chair of the Environmental Conservation Committee, who was at the top of the list of sponsors, the Speaker assured passage in the Assembly and offered to help negotiate an agreement with the Senate on several new issues. New EnCon Committee Chairman Richard Brodsky (Westchester) has been instrumental in blocking the Assembly's recent attempts to tighten loopholes and make the rules easier to follow. Second is a plan to create an environmental fund to pay for a variety of needs, not the least of which are conservation easements and land purchases.

Action to date includes:
- Passage of the Assembly land-use bill land-use bill January 5 with strong support from both parties.
- In his January 6 State of the State message, Governor Cuomo outlined proposals for protecting open space and natural resources, which would include the $9.5 million annual fund for easements and land purchases, as well as millions more for landfill closure grants and water and sewer projects; hundreds of thousands of dollars for local land-use planning assistance, new positions at the Adirondack Park Agency (which governs land use in the Park) and for farmland preservation programs. These proposals are being discussed now and should be either accepted or rejected by the Legislature on or before the April budget deadline.

Still awaiting action:
- Governor Cuomo is also expected to promote his own package of land-use reforms for the Adirondack Park, focusing mainly on protecting undeveloped shorelines and unbroken forests, while increasing economic opportunities in the already-settled areas of the Park.
- A second Assembly bill may appear soon, which would provide a dedicated source of money for environmental projects throughout the state, including conservation easements and land purchases for the Adirondack Park and Tug Hill, as well as the rest of the state.
- Assembly Land-Use Plan January 5 is the third attempt in as many years by the Assembly to reach an agreement with the Senate on what is the right land-use plan for the Park. The bill passed by the Assembly this year is very similar to the one which passed last year, with the exception of some minor technical differences. The forecast is this will be a bipartisan support both last year and this year. Since it was very late in the Legislature when the bill was first considered, Speaker Weprin said he felt the Assembly should pass the bill in order to give the Senate more time to craft a response.

The Assembly land-use bill's major provision is the Farm and Forest Fund. Creates a permanent fund to help local governments cope with the loss in property tax revenue when farmers and forest-owners take advantage of tax shelters in state law. Millions of dollars would flow annually from fees imposed on luxury recreational amenities, owned mostly by visitors and seasonal residents, based on the number of non-residential rooms in the property, like George area. That money would flow, with no strings attached, directly to local governments as a means of encouraging the preservation of open space and rural jobs.

Residents Homestead Exemption: This would allow Adirondack residents to subdivide family property for use as a residence by another family member or gardener. It would provide credits equal to the local property taxes contained in new or existing regulations.

Adirondack Park Agency. This bill would provide for the first time, the APA to charge a filing fee for permit applications. The fee would be nominal for small projects and increase in proportion to the scope of the development. Further, the APA would be directed to codify current regulations into permanent regulations and provide new rules into new regulations and performance standards that the public can understand and rely on.

Shorelines and Backcountry: The Weprin bill would give the APA greater jurisdiction over undeveloped shorelines and restrict land-use in the most remote and sensitive areas of the Park to traditional uses, such as forestry, farming and recreation.

Cuomo's Land Use Plan While this bill could well be the negotiating piece for the Senate, Governor Cuomo is also expected to introduce his own package of bills early in with his own land-use package soon. The governor's approach to preserving timberland includes programmes to subsidize timber companies and other large.

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Adirondack Legislation
Continued from Preceding Page
landowners in exchange for written agreements not to develop their lands for a specific period of time. The governor's bill would make it more difficult to create destructive and unsightly shoreline developments by en- larging the definition of "critical envi- ronmental areas," where APA jurisdic- tion is triggered.

Cutting Environmental Assistance Fund
The governor made a bold move this year by including his environmental funding proposal in the annual budget, rather than waiting until after the budget deadline of April to discuss the matter. By doing so, the governor has sent a message to the Legislature that he is seri- ous about protecting the state's envi- ronment and that something must be done this year to solve pressing needs.

His fund includes $9.5 million for land preservation, which could include the purchase of Follensby Pond—a 14,000 acre tract adjacent to the High Peaks Wilderness, which is the site of the 1858 Philosopher's Camp hosted by Ralph Waldo Emerson. The purchase price is reputed to be roughly $4.6 mil- lion. While the bill is not specifically mentioned in the budget, it is high on the state's short list from the Open Space Preservation Fund. For the state to consider the option to purchase Follensby ex- pires this summer.

The fund also includes $300,000 for local land-use planning in the Park, $2 million for property tax breaks for large landowners and another $300,000 for farm preservation. The entire fund would amount to $58 million in 1993-94 and includes money for landfill closure, recycling, water projects, sewage systems, municipal parks, historic preservation, coastal programs and Great Lakes protection.

In fiscal year 1994-95, the fund would increase to $150 million, and would slowly rise to a $270 million an- nual fund by 1997-98. Assembly Environment Fund
The Assembly may create and pass its own environmental fund bill for this year, although no details have been available to date. Since the governor has included his fund in the state budget package, the Assembly may forego the passage of its own bill and simply ask with the Senate to negotiate a deal on the Governor's proposal. The fate of the governor's bill is likely to dictate the Assembly's actions. If it is eliminated from the budget by the Senate, the Assembly may try again before the ses- sion ends in July.

What You Can Do:
The Adirondack Council has a well- established Statewide Activist Network, to volunteer direct efforts to protect the Adirondack Park. The Council has also created an Organizational Activist Program to coordinate information and the efforts of organizations throughout the Northeast and nation with regard to Adirondack and Northern Forest Lands issues. Individuals and organizations are kept up-to-date with new develop­ ments in state/federal policy and legis­ lation that affects the Adirondack Park and Northern Forest Lands are urged to con­ tact.

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Farm and Forest Fund
Rewards Adirondack Towns with Open Space
by John Sheehan
The New York State Assembly has proposed an innovative response to protect open space and local tax bases in the six-million-acre, part public, part private Adirondack Park.

The "Farm and Forest Fund" is a means of encouraging local governments to protect open spaces by providing direct cash payments to towns in proportion to the amount of farmland and forestland within their borders. It is also a means of collect­ ing revenues from several sources without the state's contributing to their upkeep, while at the same time discouraging overuse of popular water bodies by recreationalists.

The plan is simple. The Assembly is proposing to have Adirondack towns and villages they can benefit from the existence of private open space within their borders in the same way they benefit from the state's policy of providing full tax payments to communities which contain Forest Preserve.

Currently, Adirondack timberlands are taxed at roughly $4 per acre, as opposed to about $1 in the Northern Forest Lands. As a result, many timber comp­ anies have searched for ways, other than harvesting trees, to generate income. For many companies, that means closing and posting their lands and offering exclusive hunting leases. Many of those same companies, as well as others, also opt for state- offered property tax breaks.

The state tax breaks offer companies an 80 per cent reduction in property taxes until harvest time, when the companies pay a stumpage fee to the towns to make up for the 80 per cent reduction in previous years. While this system benefits timber companies and all towns in northern Adirondack towns, it has its own drawbacks. Many residents who can't keep up with local tax increases and the loss of open space to de­ velopment.

The Lake George fee system was created to lift some of the burden of providing services off the shoulders of local government by placing it on visitors. Consequently, fees on large power boats, shorefront airplane hangars, wharfs, multi-boat docks, boathouses and other amenities help provide the money local gov­ ernments need to provide services and maintain a cleaner environment.

But Lake George's tourist traffic is only a portion of the 10 million people who visit the Adirondack Park each year.

By spreading this fee system throughout the Adirondack Park, the Assembly hopes to create a multi-million dollar annual fund. The money from the fund would be spread evenly throughout Adirondack towns and villages, based on the amount of open space each contains. By maintaining this open space, the communities guaran­ tee they will continue to receive a share of the money, which they can spend any way they like.

While there are absolutely no strings attached to the money, there is a clear im­ petus to spend it in ways which promote the integrity of the Park's largest land­ holdings, especially since many communities will try to discourage the break-up of large tracts to protect their cut of the fund. At the very least, they will begin to weigh the cost of development versus the cost of losing Farm and Forest Fund money. The Assembly hopes the program will provide local governments a financial incentive to keep their lands out of the hands of land speculators.
IP Donates Raquette River Tract
20,000 Acre Adirondack 'Jewel' Protected

Governor Mario M. Cuomo, upon receiving the gift, said, "On behalf of the people of New York, I thank International Paper for its generous gift. New York is always eager to work with its corporate citizens on projects that benefit our environment and our economy. The Adirondack Park's recreation values, as well as its importance in short, its attractiveness as a place to live and visit--is enhanced by this gift.

Patrick Noonan, president of the Conservation Fund, said that the fund will undertake an environmental assessment of the Raquette River gift. Preliminary plans call for maintaining a protected scenic corridor along the northeast side of the river. The Conservation Fund will continue to manage the adjacent timberlands as an Adirondacks working forest and, consequently, will continue to pay taxes on the property.

The Conservation Fund creates partnerships with the private sector, non-profit organizations, and public agencies to help protect America's outdoor heritage. Committed to excellence in real estate and entrepreneurial spirit, The Fund constantly seeks new opportunities to advance Jones's vision of water conservation.

International Paper manages 325,000 acres within the Adirondack region. The company also owns and operates two primary paper-making facilities within the Adirondack region at Ticonderoga and Corinth, and employs approximately 1,000 people in the Adirondacks. The company manages more than 6 million acres of forest within the United States.

Publication Schedule
The Northern Forest Forum is published six times a year if funding permits. It will be printed in the middle of the odd-numbered months (January, March, May, July, September, & November). Deadlines for submission will be the First of those months.

PAW Appeals Continue on GMNF
No Quick Resolution Seen
by Lowell Krassner

Preserve Appalachian Wilderness (PAW) has appealed most of the recent timber sales on Vermont's Green Mountain National Forest (GMNF) on grounds that the Forest Service has failed to consider important wildlife habitat, has not carried out required, and economical timber sale impacts, and has neglected to account for the cumulative impacts of previous and current sales. PAW also charges that a number of forthcoming timber sales are re-offers that were planned under a preceding Forest Plan, now is of no value.

Some observers regard the situation as a serious breach of faith on the part of the USFS, because when the GMNF plan was issued in 1986, it was hailed as the most environmentally conscientious plan that came out of the mid-eighties planning cycle, and was an important landmark in what most environmentalists regarded as an otherwise egregious process. Timber purchasers feel that PAW is pursuing a course of legalistic obstructionism, aimed at halting or delaying timber sales regardless of the substantive impacts. Serious problems surfaced last summer, when the Emily Proctor Trail, a spur leading to the Long Trail, was used as a skid route on the Spruce Lodge Site. A site visit called by GMNF staff for interested groups (after press groups were flagged, but unused. GMNF staff re-scored the hiking trail, was still partially flagged, but unused. GMNF staff recognized the error, but no remedial actions have been taken, and additional cutting was given the go-ahead.

PAW has pointed out that GMNF expenditures are not following the forest plan, while recreation, wildlife, and similar amenities are funded well below plan levels, the timber sale budget is currently 120% of that established for the plan. The present situation raises important issues for the environmental community--whether the sales being questioned will cause substantive damage to the resource, whether all sales being offered are in compliance with the current Forest Plan; and whether the Forest Service will correct procedural insufficiencies that it has already acknowledged in several PAW appeals.

Some groups fear that frequent shifts in Forest Service staff have resulted in a loss of institutional memory on GMNF, noting that present Forest Service interpretations of plans often do not reflect the emphasis made when the planning was discussed with interested publics.

Lowell Krassner lives in South Burlington, VT and monitors the Northern Forest Lands issues for New England Sierra Club groups at a volunteer activist

Spring Equinox 1993
The Northern Forest Forum
There are no limits to the size of legal clearcuts in Vermont. Flying over Granby, Victory, Concord, Lunenburg and Miles Pond near Route 2 one can see numerous clearcuts that are hundreds or even thousands of acres in size. And remember, it's legal to deforest Vermont. Photo by Steve Gorman